



# Plain Language Guide to the Flexible Polyurethane Foam Production NESHAP 40 CFR 63, Subpart III



**Plain Language Guide to the  
Flexible Polyurethane Foam Production  
NESHAP  
40 CFR 63, Subpart III**

Prepared for:

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## What is the legal status of this guide?

The Office of Air Quality Planning and Standards (OAQPS) and the Office of Enforcement and Compliance Assistance (OECA) of the U. S. Environmental Protection Agency (EPA) have reviewed this document and approved it for publication.

When using this document, remember that it isn't legally binding and doesn't replace the final rule - "National Emission Standard for Hazardous Air Pollutants for Flexible Polyurethane Foam Production" (published in the *Federal Register*, **10/7/98, 63 FR 53980**) or any State, local or tribal rules that may apply to your facility.

This document isn't intended, nor can you rely on it, to create any rights enforceable by any party in litigation with the United States. The EPA may change this document at any time without public notice.

This document includes only requirements from the final rule published in the *Federal Register* 10/7/98, 63 FR 53996.

## Thank You

This document was prepared by a joint partnership among the Environmental Protection Agency (EPA, or we), State and local agencies for air pollution control, trade associations, and organizations who produce flexible polyurethane foam. At the time of publication, the development team had the following members:

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### Why should I use this document?

This document can help plant owners and operators (you) understand the *Flexible Polyurethane Foam Production* NESHAP (also known as Subpart III) by helping you determine **four** main things:

- if the rule applies to your plant and process
- what compliance options are available
- what to monitor, record and report
- dates by which you must meet requirements

### Is there anything I should know before using this document?

When using this document, remember that it **doesn't** replace the final rule and covers only requirements published on or before **12/31/98**. You should keep up with new requirements printed after this date by periodically checking the *Federal Register* and the Code of Federal Regulations (CFR). You can download Federal Register notices by going to the Government Printing Office (GPO) website at [www.access.gpo.gov/su\\_docs/aces/aces140.html](http://www.access.gpo.gov/su_docs/aces/aces140.html).

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*Keep informed of rule changes by checking the Federal Register*

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We've included a copy of the final rule in **Appendix A** (as published in the *Federal Register*, **10/7/98, 63 FR 53980**), so you can reference the rule while you're using this document.

### How do I get copies of this document?

You can get copies of this document in **four** ways:

- EPA's Unified Air Toxics Website ([www.epa.gov/ttn/uatw](http://www.epa.gov/ttn/uatw)). Look under Rules and Implementation, flexible polyurethane foam, or [www.epa.gov/ttn/uatw/foam/foampg.html](http://www.epa.gov/ttn/uatw/foam/foampg.html)
- Library Services Office, (MD-35), U.S. EPA, Research Triangle Park, NC 27711, or [www.epa.gov/natlibra/ols.html](http://www.epa.gov/natlibra/ols.html) (limited supply)

- National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, or 1-(800)- 553-6847, or [www.fedworld.gov/ntis/ntishome.html](http://www.fedworld.gov/ntis/ntishome.html) (NTIS will charge you a fee for this document)
- National Center for Environmental Publications and Information, 1-(800)-490-9198 or [www.epa.gov/ncepihom/index.html](http://www.epa.gov/ncepihom/index.html)

## **We want your feedback**

To serve you better, we've included a survey on the usefulness of this document. If you'd like to participate, please fill out the survey on page 3 and return it to the address indicated. We'll keep your responses confidential if you desire, but use them to help us improve future documents.

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*Help us publish better documents by filling out our survey*

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# Survey on the Plain Language Guide to the Flexible Polyurethane Foam Production NESHAP

Please help us gauge this document's usefulness by completing this short form. We'll keep your responses confidential if you desire, but use them to help improve future documents. **Check this box if you would like us to keep your responses confidential** ☐

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Other \_\_\_\_\_

2. What are your job responsibilities? (check any that apply)

Plant Operator ☐ Maintenance ☐ Plant Manager ☐ Environmental Staff ☐  
Regulator ☐ Other: \_\_\_\_\_

3. How did you hear about this guidance? (check any that apply)

Co-worker ☐ EPA TTN via dial up modem ☐ EPA TTN via the Web ☐ Other \_\_\_\_\_

**Please check the box under the number that most closely shows your agreement with the following statements**

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Statement	1	2	3	4	5	N/A
The guidance was timely.						
The document provides a good overview of the rule.						
The document provides the type of information my organization needs to comply.						
The guidance helped us achieve compliance more quickly than if we had developed our own.						
We have incorporated parts of this document into our own policy documents.						
The format of this document was well organized and easy to understand.						

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6. What would you **change** about this document (e.g. formats; excluding information or including things that you didn't see in the document)? \_\_\_\_\_

\_\_\_\_\_

7. **Overall**, did you find this document to be:

extremely useful ☐ very useful ☐ so-so useful ☐ not useful at all ☐

8. **Other comments:** \_\_\_\_\_

**Provide additional comment on the back of this form or on a separate sheet of paper.**

Return survey to: ATTN: Flexible Polyurethane Foam Implementation Contact, U.S. Environmental Protection Agency (EPA), Research Triangle Park (RTP) MD-12, Research Triangle Park, NC 27711, or fax (919) 541-2664

## Chapter 2 - What this rule covers - An Overview

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### Why was this rule written?

We wrote the rule to reduce emissions of hazardous air pollutants and achieve the environmental benefits intended by the Clean Air Act (CAA) of 1990.

Our research has shown that emissions from a typical production plant may include a number of HAPs. We've estimated that **methylene chloride** accounts for more than 98 percent of the total HAP emissions from flexible polyurethane foam plants and is the primary HAP affected by the rule.

Some of the HAPs that might be emitted during the production of flexible polyurethane foam include:

- methylene chloride
- 1,2- propylene oxide
- 2,4- toluene diisocyanate
- diethanolamine
- methanol
- methyl chloroform
- methylene diphenyl diisocyanate
- methyl ethyl ketone
- toluene

### How do I know if I'm subject to this rule?

You're subject to this rule if your plant meets **all** of the following:

- is a major source of HAPs
- produces flexible polyurethane (slabstock or molded) or rebond foam
- emits a HAP
- doesn't qualify for one of the exemptions

For a list of regulated HAPs, check our Unified Air Toxics Website (UATW) at <http://www.epa.gov/ttn/uatw/188polls.txt>.

If you have an enforceable limit on your facility that restricts your emissions to <10 tons per year of any single HAP and <25 tons per year of multiple HAPs, your facility would not be a major source and not subject to this rule. If, however, you determine that you're a major source, some processes at your plant may still be exempt from the rule. These exemptions are listed below.

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*Your facility is a major source if it can potentially emit  $\geq 10$  tons per year of a single HAP or  $\geq 25$  tons per year of all HAPs.*

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## When do I need to comply?

If your facility is an existing source, you must comply by **10/8/01**, which is three years and a day after the rule's effective date of 10/7/98. The effective date is the date the final rule was published in the *Federal Register*. If you're a new source, comply before you begin operating.

<b>If your initial startup is . . .</b>	<b>Then you're<sup>1</sup> . . .</b>	<b>And must comply . . .</b>
on or before 12-27-96	an existing source	by <b>10/8/01</b>
after 12-27-96	a new source	upon initial startup

<sup>1</sup>When determining if a source is new or existing, the General Provisions (40 CFR 63, Subpart A, §63.2) requires us to use the proposal date of the rule as the cut-off date. In the case of Subpart III, the rule was proposed on 12/27/96.

## Are any processes exempt from the rule?

Your process is exempt if it's **any** of the following:

- a research and development process
- exclusively dedicated to fabricating flexible polyurethane foam
- a slabstock foam operation where your plantwide HAPs used are less than five tons per year. You must use §63.1290(c)(3) to calculate HAP used.

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*If your process is exempt, make sure you document why it's exempt*

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This last exemption - the slabstock foam operation where your **whole** facility (plantwide) uses less than five tons per year (tpy) of HAP, is based on your **usage** of HAP, rather than the amount of HAP **emitted**. You can claim this exemption only if your slabstock foam production and foam-fabrication processes are the only processes at the plant site that emit HAP and emissions from your facility are <5 tpy. The exemption applies only to Subpart III and does not effect other CAA rules, for example other NESHAPs that apply to your facility. See **Chapter 6** for an example of how to calculate this exemption.

*Note: Although foam fabrication isn't covered by the rule, you'll need to include emissions from your fabrication process to claim this exemption.*

## How do I know if I have a covered process?

The rule defines the terms "flexible polyurethane foam production," "slabstock," "molded," and "rebond" foam based on a typical process. Compare your process with these definitions in the rule.

If your operation doesn't fit one of the definitions exactly, use your judgment and talk to your State, local or Tribal agency for air pollution control. If all else fails, your EPA Regional Office can help you render a judgement on applicability.

## Does this rule apply to fabrication of foam?

Your process for fabricating flexible polyurethane foam will fall under a different rule - the Flexible Polyurethane Foam Fabrication NESHAP. We expect to publish this rule in 2000.

**Definition.** The rule defines "*foam fabrication*" as a operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates. Typical bonding techniques include gluing, taping, and flame lamination.

## What are my requirements for slabstock foam?

The rules for producing slabstock foam cover the **two** major uses of HAP in the slabstock process:

- diisocyanates used as a reactant in making foam
- HAP used as an auxiliary blowing agent (ABA) and for equipment cleaning

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*See Chapter 3 for details about your compliance options for slabstock foam*

---

You must control **diisocyanate emissions** from **all** of the following types of equipment:

- storage vessels
- transfer pumps
- other components in service (such as connectors, valves, pressure-relief devices, etc.)

**Definition.** The rule defines *diisocyanate* as a compound containing two isocyanate groups per molecule. The most common diisocyanate compounds used in the flexible polyurethane foam industry are toluene diisocyanate (TDI) and methylene diphenyl diisocyanate (MDI).

You must control **HAP ABA emissions** from **all** of the following equipment and processes:

- storage vessels
- equipment leaks
- the production line
- equipment cleaning

Depending on which compliance option you choose, you'll have to meet **one or more** of the following requirements:

- use control equipment
- meet limits on point or sourcewide emissions
- restrict or eliminate the use of some materials
- inspect and monitor equipment for leaks

## What are my requirements for molded and rebond foam?

If you have a molded or rebond foam plant, you **can't** use a HAP or HAP-based products to clean your equipment **or** use it as a mold-release agent.

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*See Chapter 4 & 5 for details about your compliance options for molded and rebond foam*

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The only exception is your molded foam plant using diisocyanates during startup or maintenance to flush the mixhead and associated piping. If you use diisocyanates for flushing, you must contain the diisocyanate in a closed-loop system and reuse it in production.



## Chapter 3 - Complying with requirements for slabstock foam

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### What do the Slabstock sections of the rule cover?

Your slabstock foam production plant is covered under §§63.1293-1299 of the rule if your process meets **all** of the following conditions:

- emits a HAP
- is a slabstock foam production process
- is located at a plantsite that is a major source of HAPs
- is not exempt

The slabstock sections of the rule cover vessels for storing diisocyanates, pumps for transferring them, and other diisocyanate components you have in service (such as connectors, valves, pressure-relief valves, etc.) These sections also cover vessels for storing HAP auxiliary blowing agents (ABA), HAP ABA equipment leaks, HAP ABA emissions from the production line, and HAP ABA emissions from equipment cleaning.

**Definition.** *Slabstock flexible polyurethane foam* means “flexible polyurethane foam that is produced in large continuous buns that are then cut into the desired size and shape.”

**Definition.** *Slabstock flexible polyurethane foam production line* means “all portions of the flexible polyurethane foam process from the mixhead to the point in the process where the foam is completely cured.”

**Definition.** *Flexible polyurethane foam process* means “equipment used to produce a flexible polyurethane foam product. It includes raw material storage; production equipment and associated piping, ductwork, etc.; and curing and storage areas.”

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#### *About this Chapter:*

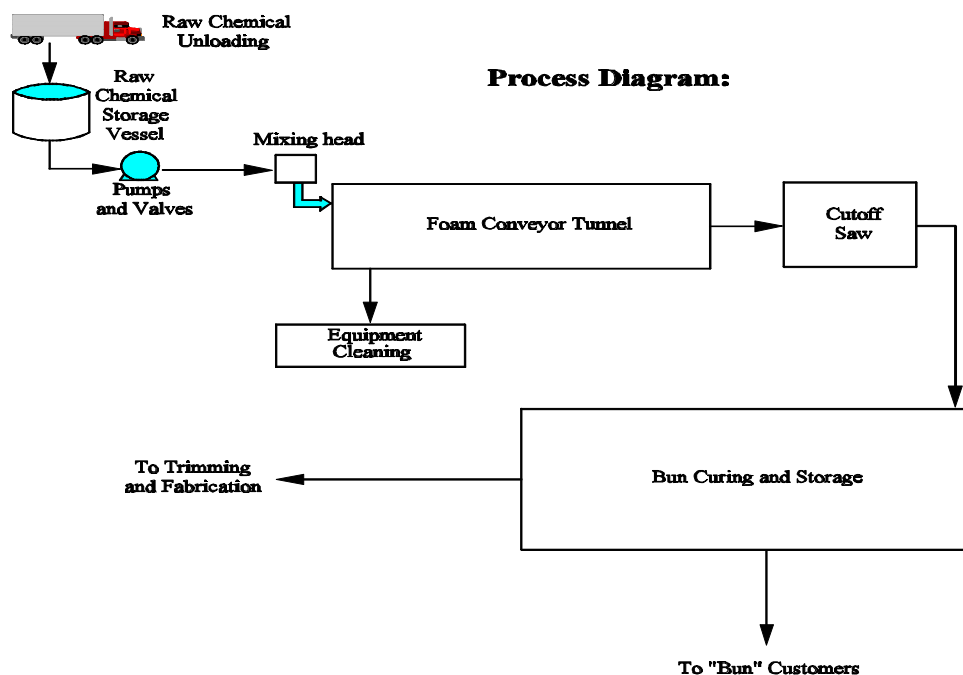
- *Whenever you see “§,” we are referring to the section number of the rule. You can go to that section in the rule for more information*
  - *When you see a definition, it comes straight from the rule*
- 

**Figure 3.1** (on page 9) shows a typical process for producing slabstock foam.

**Figure 3.1**  
**A Typical Process for Slabstock-Foam Production**

**Process Description:**

Flexible slabstock-foam is produced as a large continuous "bun." Raw chemicals are unloaded into storage vessels. The chemicals are then pumped to a mixing head where they are blended and form a reacting chemical mixture. The amount of each chemical sent to the mixing head is computer controlled and monitored on flow meters. The mixture is discharged through the mixing head into a trough or onto a moving conveyor belt, where the reactions continue. From this point the reacting mixture moves into the foam conveyor tunnel. The mixture quickly spreads evenly across the tunnel. The foam reaches its maximum height, or "full rise," about 25 feet from the mixing head nozzle. Additional time on the conveyor after full rise is required to allow the polymerization reactions to be completed. The bun then moves towards the cutoff saw. After being cut, the buns are cured and then stored. Cured buns are either sent to bun customers or to trimming and fabrication operations. Trimming and fabrication operations and bun customers are not covered by this rule.



## What is exempt under these sections of the rule?

Your slabstock facility is exempt from the rule if HAP used at your foam production and fabrication facility is no more than five tons per year **or** if your process exclusively does **either** of the following [§63.1290]:

- fabricates foam
- does research and development

**Definition.** *Research and development process* means “a laboratory or pilot plant operation whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which is not engaged in the manufacture or products for commercial sale except in a *de minimis* manner.”

**Definition.** *Foam fabrication process* means “an operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates.”

You must use §63.1290(c)(3) of the rule (Equation 1) to calculate if your facility uses less than five tons per year HAP. Your facility will be able to take the five ton per year exemption only if your slabstock foam production and foam fabrication<sup>note</sup> processes are the only processes at the plant site that emit HAP. See **Chapter 6** for examples on how to calculate this exemption.

*Note: Although foam fabrication isn’t covered by the rule, you’ll need to include emissions from your fabrication process to claim this exemption.*

## What compliance options do I have?

If you produce slabstock foam, you have **three** main regulatory options:

- **Option 1:** meet limits on HAP Auxiliary Blowing Agent (ABA) emissions (e.g. emission point specific limit) and control diisocyanate emissions [§§63.1295 - 63.1298, §63.1294]
- **Option 2:** meet a sourcewide emission limit and control diisocyanate emissions. Option 2 applies to plants that use **only** one HAP as an ABA and an equipment cleaner [§63.1299, §63.1294]
- **Option 3:** request an **alternate means of emission limitation** under §63.1305(d). Your request may be submitted in your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time. See **Chapter 7** for additional information [§63.1305(d), §63.1309(b)]

To summarize, your options are as follows:

If ...	And you ...	Then use the following options ...	For more information, see figures ...
your slabstock foam plant is regulated under Subpart III	use multiple HAPs as an ABA and equipment cleaner	<b>Option 1:</b> comply with §63.1294 (diisocyanate emissions) <b>and</b> §63.1295 through 63.1298 (emission point specific limits)	3.2, 3.4 and 3.5
	use only one HAP as an ABA and equipment cleaner	<b>Option 2:</b> comply with §63.1294 (diisocyanate emissions) <b>and</b> §63.1299 (sourcewide emission limit)	3.3 and 3.4
	want to use an alternative means of emission limitation	<b>Option 3:</b> comply with §63.1305 (alternative means of emission limitation)	Not in table, see §63.1305(b)

Your specific requirements under Options 1 and 2 differ based on the type of equipment or processes at your plant. Depending on the option you choose, you may be required to monitor one or more pieces of equipment or processes. Each equipment or process you monitor may have subsequent options you can choose. Clearly understanding all your available options and sub-options can get confusing. To help you understand your choices, we've included several figures.

**Figure 3.2** (on page 15) outlines your requirements if you choose Option 1. **Figure 3.3** (page 16) outlines your requirements if you choose Option 2. Finally, **Figure 3.4** (page 17) outlines your requirements for controlling diisocyanate emissions under Options 1 and 2.

## What monitoring must I do?

Your monitoring requirements will depend on the compliance options you select. If you choose **Option 1**, your main types of monitoring include **one or more** of the following:

- diisocyanate equipment leaks and repairs made on transfer pumps and other components in diisocyanate service [§63.1294(b)]
- HAP ABA and diisocyanate vapor balancing (vapor-return line) used for storage vessels [§63.1295(b), §63.1294(a)]
- HAP ABA and diisocyanate carbon-adsorption systems used for storage vessels [§63.1295(c), §63.1303(a), §63.1294(a)]

- HAP ABA and polyol added to the foam production line at the mixhead **OR** an alternate monitoring program under §63.1303(b)(5) [§63.1303(b), §63.1303(b)(5)]
- HAP ABA recovery monitoring device used (you must develop a monitoring program and get it approved prior to its use) [§63.1303(c), §63.1303(c)(6)]
- HAP ABA level in storage vessels [§63.1303(d)]
- HAP ABA added to storage vessels **OR** an alternate monitoring program under §63.1303(e)(4) [§63.1303(e), §63.1303(e)(4)]
- Equipment leaks and repairs made to HAP ABA pumps, valves, connectors, pressure-relief devices, and diisocyanate transfer pumps and other components in diisocyanate service [§63.1296(a)-(e), §63.1294(b)]

If you choose the **alternative monitoring program** for HAP ABA and polyol added to the foam production line at the mixhead, you'll need to request and obtain approval from the **EPA** before you use your alternate. This is because we've chosen not to delegate §63.1303(b)(5) to your State, local or Tribal agency for air pollution control. See **Chapter 7** for additional information [§63.1303(b)(5), §63.1309(b)].

Also see **Chapter 7** for information on where to submit your **alternative monitoring program** for HAP ABA added to storage vessels, and, where to submit your HAP ABA **recovery monitoring program** [§63.1303(e)(4), §63.1303(c)(6)].

If you choose **Option 2**, your main types of monitoring include **one or more** of the following:

- diisocyanate vapor-balancing used for storage vessels [§63.1294(a)]
- diisocyanate carbon-adsorption systems used for storage vessels [§63.1294(a)]
- diisocyanate equipment leaks and repairs made on transfer pumps and other components in diisocyanate service [§63.1294(b)]
- emissions from HAP ABA storage vessels, equipment leaks, the production line and equipment cleaning [§63.1299]
- emissions from recovery devices [§63.1299(e)]

§63.1303 of the rule explains the requirements for each type of monitoring, except for vapor balancing and leak detection and repair, which are in §63.1294-1296. **Table 3.1** (on page 19) also gives you details about your monitoring requirements under Option 1 and 2.

## What records must I keep?

For slabstock-production, you must keep one or more of the following types of information:

- records on storage vessels
- records on equipment leaks
- records on HAP ABA and polyol added to equipment
- records on recovery devices
- copies of data sheets on equipment cleaners
- records on your use of vapor-return lines

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*Maintain records for at least five years*

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The types of records required depend on whether you decide to comply with a specific emission point (Option 1 - emission point specific limit) or the sourcewide limits (Option 2). Your recordkeeping will also vary according to the control options you're using. **Table 3.2** (on page 28) details these recordkeeping requirements as does §63.1307 of the rule.

## What reports must I submit?

You must submit up to **seven** types of reports on each slabstock foam plant:

- an initial notification sent in within 120 days after the effective date of the rule [§§63.1306(a), 63.9(b)]
- an application for approval for construction or reconstruction sent in as soon as practical before construction [§§63.1306(b), 63.5(d)]
- a pre-compliance report sent in at least 12 months prior to the rule's compliance date [§63.1306(c)]
- a notification of compliance status sent in within 180 days after the rule's compliance date [§63.1306(d)]
- semiannual compliance reports sent in within 60 days after each 180 day period, with the first report due 240 days after the notification of compliance status [§63.1306(e)]
- an annual compliance certification sent in yearly [§63.1306(g)]

The **seventh** report is also necessary if you want to change the option you are using to meet the emission limit or compliance method. You must send a notification of your intent to switch options at least 180 days prior to making the change [§63.1306(f)]. For example, if you wanted to switch from the rolling-annual to the monthly compliance method for your HAP ABA production line, you'd need to make notification at least 180 days prior to making the change.

**Chapter 7** gives you more details on the reporting requirements above, as well as additional reporting information including dates and example forms. The forms are optional, but you may find them useful.

## What test methods am I required to use?

You'll need to use the following **two** test methods if you produce Slabstock foam:

- use EPA Test Method 21 to monitor leaks from HAP ABA pumps, valves, connectors, pressure-relief devices, and open-ended valves or lines [§63.1304(a)]
- use the American Society for Testing and Materials (ASTM) D3574 to determine the density and IFD of each grade of foam produced [§63.1304(b)]

You can download a list of the latest ASTM versions by going to [www.astm.org](http://www.astm.org) and clicking on "Search for ASTM standards," then continue as prompted. You can also order ASTM methods by calling (610) 832-9585.

## How do I show compliance?

You can show compliance with §§63.1293-1299 by doing **all** of the following:

- control diisocyanate emissions from storage vessels, transfer pumps, and other components using the options in **Figure 3.4** [Option 1 and 2, §63.1294]
  - control HAP ABA emissions from **either** one of the following:
    - storage vessels, equipment leaks, the production line, and equipment cleaning as described in **Figures 3.2 and 3.5** (e.g. emission point specific limit) [Option 1, §63.1295 - 1298]
- OR**
- your entire slabstock production process if you use only one HAP as an ABA and an equipment cleaner (e.g. sourcewide emission limit) as described in **Figure 3.3** [Option 2, §63.1299]
  - do the monitoring described in **Table 3.1**
  - maintain the records described in **Table 3.2**
  - submit the reports described in **Chapter 7**

You must meet all of these requirements, otherwise, you'll be in violation of §§63.1293-1299. Check §63.1308 of the rule for more information.

## Is an inspection checklist available?

We've included an inspection checklist in **Table 3.3** (on page 38) to help you check your slabstock foam plant for compliance with the rule.

**Figure 3.2**  
**Option 1**  
**Emission Point Specific Limit**

See separate PDF file



**Figure 3.3**  
**Option 2**  
**Sourcewide Emission Limit**

See separate PDF file

**Figure 3.4**  
**Option 1 and 2**  
**Diisocyanate Emissions**

see separate PDF file

**Figure 3.5**  
**Option 1**  
**HAP ABA Equipment Leaks**

see separate PDF file

**Table 3.1 Monitoring Requirements for Slabstock foam Production**

<b>If your emission point is . . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must monitor as described below . . .</b>	<b>According to these sections of the rule ...</b>
<b>Diisocyanate storage vessels</b>	Emission point specific limit	Vapor balance	Look, listen, and otherwise check for leaks in the vapor-return line each time diisocyanate is unloaded from a tank truck or rail car into the storage tank.	§63.1294(a)(1)(i)
(Option 1 or 2)	<b>OR</b>		Repair leaks found before the next unloading event.	§63.1294(a)(1)(ii)
	Sourcewide emission limit	Carbon-adsorber	Measure HAP or organic concentrations in the exhaust-vent stream or outlet stream's exhaust from the carbon-adsorption system during each unloading of diisocyanate from a tank truck or rail car. If diisocyanate is unloaded more often than once a month, you must monitor only one unloading event per month.	§63.1303(a)(1)
		<b>OR</b>	Instead of monthly monitoring, you can monitor at the frequency you've established during the design analysis as long as the monitoring is performed within 20 percent of the carbon replacement interval.	§63.1303(a)(2)
			Measure HAP concentration using 40 CFR part 60, Appendix A, Method 18 over at least a 5-minute period while the storage vessel is being filled .	§63.1303(a)(3)
			Measure organic concentration using 40 CFR part 60, Appendix A, Method 25A over at least a 5-minute period while the storage vessel is being filled.	§63.1303(a)(4)
			You must replace existing carbon with fresh carbon prior to the next unloading event if you detect breakthrough.	§63.1294(a)(2)

**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule ...
<b>Transfer pumps in diisocyanate service</b>	Emission point specific limit	Sealless pump	None	
(Option 1 or 2)	<b>OR</b>			
	Sourcewide emission limit	Submerged pump	Immerse each pump in bis(2-ethylhexyl)phthalate (DEHP, CAS#118-81-7), 2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil.	§63.1294(b)(2)(i)
			Look at each pump at least once a week to be sure it isn't leaking.	§63.1294(b)(2)(ii)
			If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1294(d)	§63.1294(b)(2)(iii)
<p><i>Note: First attempt at repair should include tightening of packing gland nuts and checking the seal flush to see if it is operating at design temperature and pressure.</i></p>				

**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule ...
<b>Other components in diisocyanate service</b>  (Option 1 or 2)	Emission point specific limit  <b>OR</b>  Sourcewide emission limit	N/A	None, but if you find a leak, you must make your first attempt to repair it within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f)	§63.1294(c)
<b>HAP ABA storage vessels</b>  (Option 1)	Emission point specific limit	Vapor balancing or carbon-adsorber	Monitor the amount of HAP ABA <b>in</b> the storage vessel weekly using a level-measurement device. Calibrate the level-measurement device initially and at least once per year. Unless you visually read the device with permanent graduated marks, such as for a gauge glass, the device must have either a digital or printed output.	§63.1303(d)
			Monitor the amount of HAP ABA <b>added to</b> the storage vessel each time there is a delivery. You may determine the amount of HAP ABA added by using a level-measurement device, monitoring the flow rate, or measuring the weight. If the amount of HAP ABA added is determined using a scale, it must be approved by your State or local agency or checked once per year by a registered scale technician. §63.1303(e) describes each of these options.	§63.1303(e)
			The rule also allows you to develop and submit for approval an alternative monitoring plan for determining the amount of HAP ABA <b>added to</b> the storage vessel.	§63.1303(e)(4)

**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

<b>If your emission point is . . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must monitor as described below . . .</b>	<b>According to these sections of the rule ...</b>
		Vapor balance	Look, listen, and otherwise check for leaks in the vapor-return line each time the HAP ABA is unloaded from a tank truck or rail care into the storage tank.	§63.1295(b)(1)
			If you detect a leak, repair it by the next unloading event.	§63.1295(b)(2)
		Carbon-adsorber	Measure HAP or organic concentrations in the exhaust-vent stream or outlet stream's exhaust from the carbon-adsorption system during each unloading of diisocyanate from a tank truck or rail car. If diisocyanate is unloaded more often than once a month, you must monitor only one unloading event per month.	§63.1303(a)(1)
			<b>OR</b>	
			Instead of monthly monitoring, you can monitor at the frequency you've established during the design analysis as long as the monitoring is performed within 20 percent of the carbon replacement interval.	§63.1303(a)(2)
			Measure HAP concentration using 40 CFR part 60, Appendix A, Method 18 over at least a 5-minute period while the storage vessel is being filled .	§63.1303(a)(3)
			Measure organic concentration using 40 CFR part 60, Appendix A, Method 25A over at least a 5-minute period while the storage vessel is being filled.	§63.1303(a)(4)
			You must replace existing carbon with fresh carbon prior to the next unloading event if you detect breakthrough.	§63.1295(c)

**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

<b>If your emission point is . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must monitor as described below . . .</b>	<b>According to these sections of the rule ...</b>
<b>HAP ABA equipment leaks, pumps</b>	Emission point specific limit	Sealless pump	None	
(Option 1)		Other types of pumps	<p>Monitor each pump quarterly using EPA Method 21 to detect leaks. If you measure an instrument reading of 10,000 parts per million (ppm) or more, you have a leak.</p> <p>Look at each pump every calendar week to see if liquids are dripping from the pump's seal.</p> <p>If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f).</p> <p><i>Note: Your first attempt to repair should include tightening of packing land nuts and ensuring the seal flush is operating at it's design pressure and temperature.</i></p>	<p>§63.1296(a)(2)(i); §63.1304(a)</p> <p>§63.1296(a)(2)(ii)</p> <p>§63.1296(a)(2)(iii)</p>
<b>HAP ABA equipment leaks, valves</b>	Emission point specific limit	Valves not designated as Unsafe-to monitor or Difficult-to-monitor	<p>Monitor each valve quarterly using EPA Method 21 to detect leaks. If you measure an instrument reading of 10,000 parts per million (ppm) or more, you have a leak.</p> <p>If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f).</p> <p><i>Note: Your first attempt to repair should include tightening of bonnet bolts, replacement of bonnet bolts, tightening gland nuts and lubricating the packing.</i></p>	<p>§63.1296 (b)(1); §63.1304(a)</p> <p>§63.1296(b)(2)</p>
(Option 1)				



**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

<b>If your emission point is . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must monitor as described below . . .</b>	<b>According to these sections of the rule ...</b>
		Unsafe-to-monitor valves	Unsafe-to-monitor valves are those where monitoring could expose personnel to an immediate danger situation. You must have a written plan for monitoring valves identified as unsafe-to-monitor. Monitor and repair leaks according to the written plan, which is at least as soon as practicable.	§63.1296(b)(3)
		Difficult-to-monitor valves	Difficult-to-monitor valves are those where the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or where the valve is not accessible at any time in a safe manner. You must have a written plan for monitoring valves identified as difficult-to-monitor. Monitor and repair leaks according to the written plan, which is at least once every calendar year.	§63.1296(b)(4)
<b>HAP ABA equipment leaks, connectors</b>	Emission point specific limit	Connectors not designated as Unsafe-to monitor or Unsafe-to-repair	Monitor each connector annually using EPA Method 21 to detect leaks.	§63.1296(c)(1)(i); §63.1304(a)
(Option 1)			If the connector has been opened or the seal is broken, you must monitor it using EPA Method 21 no later than 3 months after you start using it again.	§63.1296(c)(1)(ii); §63.1304(a)
			Whenever you repair a connector, you must monitor it using EPA Method 21 for leaks within 3 months after the repair.	
			If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f).	§63.1296(c)(1)(iii); §63.1304(a)

**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

<b>If your emission point is . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must monitor as described below . . .</b>	<b>According to these sections of the rule ...</b>
		Unsafe-to-monitor	Unsafe-to-monitor valves are those where monitoring could expose personnel to an immediate danger situation. You must have a written plan for monitoring connectors identified as unsafe-to-monitor. Monitor and repair leaks according to the written plan, which is at least as soon as practicable.	§63.1296(c)(3)
		Unsafe-to-repair	Unsafe-to-repair valves are those where repair personnel would be exposed to an immediate danger situation. You must have a written plan for monitoring connectors identified as unsafe-to-repair. Monitor and repair leaks according to the written plan, which is at least within 6 months after the leak was detected.	§63.1296(c)(4)
<b>HAP ABA equipment leaks, pressure-relief devices</b>	Emission point specific limit	N/A	None, unless you see, hear, or smell a leak. If you detect a leak, then you must monitor within 5 days using EPA Method 21. If you measure an instrument reading of 10,000 parts per million (ppm) or more, you have a leak.	§63.1296 (d)(1); §63.1304(a)
(Option 1)			If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f).	§62.1296(d)(2)
<b>HAP ABA equipment leaks, open-ended valves or lines</b>	Emission point specific limit	N/A	None, but you must make sure that a cap, blind flange, plug, or second valve is appropriately sealed, except for emergency-shutdown system, at all times when you're not operating, maintaining or repairing the system. If your valve or line has a second valve, make sure that the valve on the process fluid end is closed before the second valve.	§63.1296(e)
(Option1)				

**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

<b>If your emission point is . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must monitor as described below . . .</b>	<b>According to these sections of the rule ...</b>
<b>HAP ABA Production line</b>	Emission point specific limit,	Recovery device	Monitor the cumulative amount of HAP ABA recovered by the solvent-recovery device each month using equations 2 and 4.	§63.1297(e); §63.1297(e)(1)
(Option 1)	rolling annual or monthly compliance alternative		You must submit a HAP ABA monitoring and recordkeeping program for approval. The program must contain information found in §63.1303(c)(1)-(5).	§63.1303(c)(6)
	<i>(You must make notification to switch between the monthly and yearly alternatives)</i>	All options other than recovery device	Continuously monitor the amount of HAP ABA and polyol added at the mixhead when foam is being poured. For polyol added to the mixhead, you can use pump revolutions or flow rate for the measurement. For HAP ABA added to the mixhead, you can use flow rate. You must measure at the beginning and end of the production of each grade of foam within a run of foam.	§63.1297(b); §63.1297(c); §63.1303(b)
			The rule also allows you to develop and submit for approval an alternative monitoring plan for determining the amount of HAP ABA and polyol added to the foam production line at the mixhead. The plan must be approved by the EPA prior to its use.	§63.1303(b)(5)
<b>HAP ABA equipment cleaning</b>	Emission point specific limit	NA	None, but you must make sure that you don't use a HAP or HAP-based materials as an equipment cleaner.	§63.1298
(Option 1)				

**Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule ...
<b>HAP ABA storage vessels, equipment leaks, production line, and equipment cleaning</b>	Sourcewide emission limit, rolling annual or monthly compliance alternative	Recovery device	Monitor the actual and allowable cumulative amount of HAP ABA recovered by the solvent-recovery device each month using Equations 6 and 7	§63.1299(d); §63.1299(e)(1)
			You must submit a HAP ABA monitoring and recordkeeping program for approval before you wish to begin using the program. The program must contain information found in §63.1303(c)(1)-(5).	§63.1303(c)(6)
		All options other than recovery device	Calculate <b>actual</b> source-wide HAP emissions for a month using Equation 5. Calculate actual source-wide HAP emissions for each consecutive 12-month period by summing actual monthly source-wide HAP emissions for each of the individual 12 months.	§63.1299(c)
(Option 2)			Calculate <b>allowable</b> source-wide HAP emissions for each individual month by using equation 6. Calculate allowable source-wide HAP emissions for a consecutive 12-month period by summing allowable monthly source-wide HAP emissions for each individual 12 months in the period.	§63.1299(d)

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
<b>Diisocyanate storage vessels</b>	Emission point specific limit	All options	Keep a list of diisocyanate storage vessels, along with a record of the type of control used for each storage vessel.	§63.1307(a)(1)
(Option1 or 2)	<b>OR</b>  Sourcewide emission limit	Vapor balancing	Dates and times of each unloading event. Dates and times of each inspection of the vapor-return line. Dates and times when you detect a leak in the vapor-return line. Dates and times when you repair a leak in the vapor-return line.	§63.1307(a)(4)(i)-(iii); §63.1307(f)
		Carbon-adsorption	Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time monitored. Date when you replaced the carbon.	§63.1307(a)(3)(i); §63.1307(a)(3)(iii)
		Carbon-adsorption -- design analysis monitoring	Record the systems design analysis. Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time you monitor. Date when you replaced the carbon.	§63.1307(a)(3)(ii); §63.1307(a)(3)(iii); §63.1303(a)(2)

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

<b>If your emission point is . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must keep records as described below . . .</b>	<b>According to these sections of the rule . . .</b>
<b>Transfer pumps in diisocyanate service</b>	Emission point specific limit	All options, except sealless pumps	For each pump, date of installation and type of control.	§63.1307(b)(2)
(Option 1 or 2)	<b>OR</b>		If you detect a leak, you must record and identify on the equipment the following information:	§63.1307(b)(3)(ii)
	sourcewide emission limit		<ul style="list-style-type: none"> <li>• Instrument and operator identification numbers</li> <li>• Equipment identification number</li> <li>• Date you detected the leak and the dates of each attempt to repair the leak</li> <li>• Repair methods applied in each attempt to repair the leak</li> <li>• Words "above leak definition" if maximum leak reading is equal to or more than the leak definition for the equipment</li> <li>• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days</li> <li>• Date you expect to successfully repair the leak if not repaired within 15 calendar days</li> <li>• Date you repaired the leak</li> <li>• Date you removed the identification</li> </ul>	

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
<b>Other components in diisocyanate service</b>	Emission point specific limit	All options	List of components in diisocyanate service.	§63.1307(b)(1)(i)
(Option 1 or 2)	<b>OR</b>		If you detect a leak, you must record and identify on the equipment the following information:	§63.1307(b)(3)(ii)
	Sourcewide emission limit		<ul style="list-style-type: none"> <li>• Instrument and operator identification numbers</li> <li>• Equipment identification number</li> <li>• Date you detected the leak and the dates of each attempt to repair the leak</li> <li>• Repair methods applied in each attempt to repair the leak</li> <li>• Words "above leak definition" if maximum leak reading is equal to or more than the leak definition for the equipment</li> <li>• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days</li> <li>• Date you expect to successfully repair the leak if not repaired within 15 calendar days</li> <li>• Date you repaired the leak</li> <li>• Date you removed the identification</li> </ul>	

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
HAP ABA storage vessels  (Option 1)	Emission point specific limit	All options	A list of HAP ABA storage vessels, along with a record of the type of control used for each storage vessel.	§63.1307(a)(2)
		Vapor balancing	Dates and times of each unloading event. Dates and times of each inspection of the vapor-return line. Dates and times when you detect a leak in the vapor-return line. Dates and times when you repair a leak in the vapor-return line.	§63.1307(a)(4); §63.1307(f)
		Carbon-adsorption	Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time you monitor. Date when you replaced the carbon.	§63.1307(a)(3)(i); §63.1307(a)(3)(iii)
		Carbon-adsorption -- design analysis monitoring	Records of the systems design analysis. Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time you monitor. Date when you replaced the carbon.	§63.1307(a)(3)(ii); §63.1307(a)(3)(iii); §63.1303(a)(2)



**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
<b>HAP ABA Equipment Leaks</b> (e.g. transfer pumps, valves, connectors, pressure-relief devices, and open-ended lines)	Emission point specific limit	All options	List of components in HAP ABA service.	§63.1307(b)(1)(ii)
(Option 1)				
		All options, except sealless pumps	<p>If you detect a leak, you must record and identify on the equipment the following information:</p> <ul style="list-style-type: none"> <li>• Instrument and operator identification numbers</li> <li>• Equipment identification number</li> <li>• Date you detected the leak and the dates of each attempt to repair the leak</li> <li>• Repair methods applied in each attempt to repair the leak</li> <li>• Words "above leak definition" if maximum leak reading is equal to or more than the leak definition for the equipment</li> <li>• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days</li> <li>• Date you expect to successfully repair the leak if not repaired within 15 calendar days</li> <li>• Date you repaired the leak</li> <li>• Date you removed the identification</li> </ul>	§63.1307(b)(3)(ii)

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
HAP ABA Production line  (Option 1)	Emission point specific limit, rolling annual or monthly compliance alternative	All options	Record the following <b>daily</b> :	§63.1307 (c)(1)(i)
			<ul style="list-style-type: none"> <li>Foam runs, with a list of the grades produced during each run</li> <li>Amount of polyol added to the slabstock foam production line at the mixhead for each run (<b>not required</b> for grades of foam where you've designated the formulation limit for HAP ABA as zero)</li> <li>Results of the density and IFD testing for each grade of foam produced during each run of foam (must be recorded within 10 days of production; <b>not required</b> for grades of foam where you've designated the formulation limit for HAP ABA as zero)</li> </ul>	
			Record the following <b>monthly</b> :	§63.1307(c)(1)(ii)
			<ul style="list-style-type: none"> <li>Listing of all foam grades produced during the month</li> <li>Residual HAP formulation limit for each foam grade produced</li> <li>Total amount of polyol used in the month for each foam grade produced (<b>not required</b> if zero is the HAP ABA formulation limit)</li> <li>Total allowable HAP ABA emissions for the month</li> <li>Total amount of HAP ABA added to the line at the mixhead during the month</li> </ul>	
			If you're using <b>rolling-annual compliance</b> , also record the following:	
			<ul style="list-style-type: none"> <li>Sum of the total allowable HAP ABA emissions for the month and the previous 11 months</li> <li>Sum of the total actual HAP ABA emissions for the month and the previous 11 months</li> </ul>	§63.1307(c)(1)(iii)

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
			<p>Also keep all of the following records:</p> <ul style="list-style-type: none"> <li>Records of calibrations for each device used to measure polyol added at the mixhead</li> <li>Records of all calibrations for devices used to measure the amount of HAP ABA in storage vessels</li> </ul>	§63.1307(c)(1)(iv)

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
<b>HAP ABA Production line</b>  (Option 2)	Sourcewide limit, rolling annual or monthly compliance alternative	All options	<p>Record the following <b>daily</b>:</p> <ul style="list-style-type: none"> <li>Foam runs, with a list of the grades produced during each run</li> <li>Results of the density and IFD testing for each grade of foam produced during each run of foam (must be recorded within 10 days of production; <b>not required</b> for grades of foam where you've designated the formulation limit for HAP ABA as zero)</li> <li>Amount of polyol added to the slabstock foam production line at the mixhead for each run (<b>not required</b> for grades of foam where you've designated the formulation limit for HAP ABA as zero)</li> </ul> <p>Record the following <b>weekly</b>:</p> <ul style="list-style-type: none"> <li>storage tank level</li> </ul> <p>Record the following <b>monthly</b>:</p> <ul style="list-style-type: none"> <li>Listing of all foam grades produced during the month</li> <li>Residual HAP formulation limit for each foam grade produced</li> <li>Total amount of polyol used in the month for each foam grade produced (<b>not required</b> if zero is the HAP ABA formulation limit)</li> <li>Total allowable HAP ABA and equipment cleaning emissions for the month</li> <li>Total actual sourcewide HAP ABA emissions for the month</li> <li>Amounts of HAP ABA in the storage vessel at the beginning and end of the month</li> <li>Amount of each delivery of HAP ABA to the storage vessel</li> </ul>	<p>§63.1303 (c)(2)(i)</p> <p>§63.1303(c)(2)(ii)</p> <p>§63.1303(c)(2)(iii)</p>

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
			<p>If using rolling-annual compliance, also record the following:</p> <ul style="list-style-type: none"> <li>• Total allowable HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months</li> <li>• Total actual HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months</li> <li>• Records of all calibrations for each device measuring polyol added at the mixhead</li> <li>• Records of all calibrations for each device used to measure the amount of HAP ABA in the storage vessel</li> </ul> <p>Also keep all of the following records:</p> <ul style="list-style-type: none"> <li>• Records of calibrations for each device used to measure polyol added at the mixhead</li> <li>• Records of all calibrations for devices used to measure the amount of HAP ABA in storage vessels</li> <li>• Records to verify that all scales used to measure the amount of HAP ABA added to the storage vessel meet the requirements of §63.1303(e)(3)</li> </ul>	§63.1303(c)(2)(iv)
<b>HAP ABA Recovery device</b>	Emission point specific limit	N/A	<p>Copy of the monitoring and recordkeeping program for recovered HAP ABA.</p> <p>Certification of the monitoring device's accuracy.</p> <p>Records of periodic calibration of the monitoring devices.</p> <p>Records showing results of parameter monitoring.</p> <p>Amount of HAP ABA recovered each time it is measured.</p>	§63.1307 (d)
(Option 1 or 2)	<b>OR</b>			
	Sourcewide limit			

**Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)**

<b>If your emission point is . . .</b>	<b>And you have chosen, as your overall compliance strategy, the . . .</b>	<b>And you are using the following control option . . .</b>	<b>Then you must keep records as described below . . .</b>	<b>According to these sections of the rule . . .</b>
<b>HAP ABA Equipment cleaning</b>	Emission point specific limit	N/A	Product data-sheet for each equipment cleaner used, including HAP content, in kg of HAP/kg solids (lb HAP/lb solids).	§63.1307 (e)
(Option 1)				

## Table 3.3 Checklist for Inspecting Slabstock Foam Plants

**Facility Name:** \_\_\_\_\_  
**Facility Location:** \_\_\_\_\_  
**Facility TRI ID #:** \_\_\_\_\_  
**Person Conducting Evaluation:** \_\_\_\_\_  
**Date of Evaluation:** \_\_\_\_\_

This inspection checklist is broken up into eleven sections as follows:

	<u>Section</u>	<u>Page</u>	<u>Option</u>
I.	Applicability	38	
II.	Diisocyanate storage vessels	39	1 or 2
III.	Diisocyanate transfer pumps	42	1 or 2
IV.	Other diisocyanate components in service	44	1 or 2
V.	HAP ABA storage vessels	45	1
VI.	HAP ABA equipment leaks	49	1
VII.	HAP ABA production line	54	1
VIII.	HAP ABA equipment cleanig	59	1
IX.	Sourcewide emission limit	60	2
X.	Testing	64	1 or 2
XI.	Reporting	65	1 or 2

### Section I:    **Applicability checklist (All Options)**

<b>A. Applicability</b>		
	<b>Note:</b> If you answer YES to any Section A questions, don't continue. Your slabstock foam process isn't covered .	<b>Comments</b>
1	Is your facility exclusively dedicated to the fabrication of flexible polyurethane foam? §63.1290(c)(1)	Q   Yes   Q   No
2	Is your slabstock process devoted solely to research and development of new products and processes? §63.1290(c)(2)	Q   Yes   Q   No
3	Are your plantwide HAP emissions, as calculated using Equation 1, no more than five tons per year? §63.1290(c)(3)	Q   Yes   Q   No

## Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

### Section II: Diisocyanate storage vessels checklist (Option 1 or 2)

B. Requirements for Diisocyanate Storage Vessels			Comments
1	Does each diisocyanate storage vessel have a <b>vapor-return line</b> (vapor-balancing system) or a <b>carbon-adsorption</b> system? §63.1294(a)	Q Yes Q No	No. vessels with vapor-return line:  No. vessels with carbon-adsorption:
2	For each diisocyanate storage vessel with a <b>vapor-return line</b> , are you visually inspecting for leaks each time diisocyanate is unloaded from the tank truck or rail car? §63.1294(a)(1)(i)	Q Yes Q No	Date of last unloading:  Date of last visual inspection:
3	For each diisocyanate storage vessel with a <b>vapor-return line</b> , did you repair any leaks found before the next unloading event? §63.1294(a)(1)(ii)	Q Yes Q No	Date of leak:  Date leak repaired:  Date next loading event:  No. vessels with leaks:  No. vessels repaired:
4	For each diisocyanate storage vessel with a <b>carbon-adsorption</b> system, do you route displaced vapors through activated carbon? §63.1294(a)(2)	Q Yes Q No	
5	For each <b>carbon-adsorption</b> system, do you replace the carbon after you find the breakthrough and before the next unloading? §63.1294(a)(2)	Q Yes Q No	Date of breakthrough:  Date of Carbon Replacement:  Date of Next Unloading:  No. vessels with breakthrough:
C. Monitoring Requirements for Diisocyanate Storage Vessels			Comments
SKIP this section if you don't use a carbon-adsorption system on your storage vessels			
1	Do you monitor the HAP or organic concentration in the exhaust-vent stream or outlet stream's exhaust from the <b>carbon adsorption</b> system during each unloading (or once a month if loading occurs more often than monthly)? Or, do you monitor at a regular interval established in your <u>design analysis</u> ? §63.1303(a)(1),(2)	Q Yes Q No	No. storage vessels measured at the carbon adsorption system:  No. vessels using design analysis:



**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

C. Monitoring Requirements for Diisocyanate Storage Vessels					Comments	
SKIP this section if you don't use a carbon-adsorption system on your storage vessels						
2	If you monitor the HAP concentration in the <b>carbon-adsorption</b> system's exhaust, do you follow Method 18 and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(3)	Q	Yes	Q	No	Value Method 18:
3	If you monitor the organic concentration in the <b>carbon-adsorption</b> system's exhaust, do you follow Method 25A and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(4)	Q	Yes	Q	No	Value Method 24:
4	For each <b>carbon-adsorption</b> system monitored according to intervals in a <u>design analysis</u> , have you replaced the carbon at the specified interval? §63.1303(a)(2)	Q	Yes	Q	No	Design's Replacement Interval:  Last Replacement of Carbon:
D. Recordkeeping Requirements for Diisocyanate Storage Vessels						Comments
1	Do you have a list of <b>diisocyanate</b> storage vessels that includes the type of control for each storage vessel? §63.1307(a)(1)	Q	Yes	Q	No	No. of storage vessels:  No. of controls used:
2	If you're complying with the requirements for <b>diisocyanate</b> storage vessels using <u>carbon-adsorption</u> , do you keep the following records? §63.1307(a)(3)					No. vessels using carbon-adsorption:
	• Dates and times when you monitor the system for carbon breakthrough	Q	Yes	Q	No	
	• Reading from the monitoring device each time you monitor it	Q	Yes	Q	No	
	• Date when your replaced the carbon	Q	Yes	Q	No	
3	If you're complying with the requirements for <b>diisocyanate</b> storage vessels using <u>carbon-adsorption</u> with <b>alternative monitoring</b> , do you keep the following records? §63.1307(a)(3)					No. vessels using carbon adsorption:
	• Records of design analysis	Q	Yes	Q	No	
	• Dates and times when you monitor the system for carbon breakthrough	Q	Yes	Q	No	
	• Reading from the monitoring device each time you monitor it	Q	Yes	Q	No	
	• Date when you replaced the carbon	Q	Yes	Q	No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

D. Recordkeeping Requirements for Diisocyanate Storage Vessels	Comments
<p>4 If you're complying with the <b>diisocyanate</b> storage using a <u>vapor-return line</u>, do you keep the following records? §63.1307(a)(4), §63.1307(f)</p> <ul style="list-style-type: none"> <li>Dates and times of each unloading event</li> <li>Dates and times of each inspection of the vapor-return line</li> <li>Dates and times each time you used the vapor-return line</li> <li>Dates and times you detect a leak in the vapor-return line</li> <li>Dates and times when you repair a leak in the vapor-return line</li> </ul>	<p>No. vessels using vapor-return:</p>
Q Yes Q No	
Q Yes Q No	
Q Yes Q No	
Q Yes Q No	
Q Yes Q No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

**Section III: Diisocyanate transfer pump checklist (Option 1 or 2)**

E. Requirements for Diisocyanate Transfer Pumps			Comments
1	Is each transfer pump in diisocyanate service either <b>sealless</b> or <b>submerged</b> ? §63.1294(b)	Q Yes Q No	No. of sealless pumps:  No. submerged pumps:
2	Have you completely immersed each <b>submerged</b> pump in bis(2-ethylhexyl)phthalate (DEHP, CAS #118-81-7), 2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil? §63.1294(b)(2)(i)	Q Yes Q No	Submerging oil used:
3	Do you visually monitor each <b>submerged</b> pump weekly to detect leaks? §63.1294(b)(2)(ii)	Q Yes Q No	Date last wkly inspection:
4	When you detect a leak from a <b>submerged</b> pump, do you first attempt to repair it within 5 calendar days and actually repair it within 15 calendar days unless you've determined that your equipment meets the delay of repair definition in §63.1294(d)? §63.1294(b)(2)(iii)	Q Yes Q No	Date Leak Detected:  Date First Attempt at Repair:  Date Leak Repaired:  No. of pumps with leaks:
5	Does your first attempt to repair a leaking <b>submerged</b> pump include: tightening of packing gland nuts and checking the seal flush to see if it is operating at design temperature and pressure? §63.1294(b)(2)(iii)(B)	Q Yes Q No	
F. Recordkeeping Requirements for Diisocyanate Transfer Pumps			Comments
Complete this section only if you used submerged pumps			
1	Do you have a list of all <u>submerged transfer pumps</u> in <b>diisocyanate</b> service, including the date of installation and type of control? §63.1307(b)(2)	Q Yes Q No	No. transfer pumps:
2	For each <u>submerged transfer pump</u> that's leaking, do you attach to the equipment a readily visible identification number? §63.1307(b)(3)(i)(A)	Q Yes Q No	No. pumps with tags:
3	For each <u>submerged transfer pump</u> that's leaking, do you remove the tag only after you've repaired the pump? §63.1307(b)(3)(i)(C)	Q Yes Q No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

<b>F. Recordkeeping Requirements for Diisocyanate Transfer Pumps</b>			<b>Comments</b>
Complete this section only if you used submerged pumps			
4	For each <u>submerged transfer pump</u> in <b>diisocyanate</b> service, do you keep the following records each time you detect a leak §63.1307(b)(3)(ii)		No. pumps in diisocyanate service:
	• Instrument and operator identification numbers and the equipment identification number	Q Yes Q No	
	• Date you detected the leak and dates of each attempt to repair the leak.	Q Yes Q No	
	• Repair methods applied in each attempt to repair the leak.	Q Yes Q No	
	• Words "above leak definition" if applicable	Q Yes Q No	
	• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days. Date you expect to repair the leak if not repaired within 15 calendar days	Q Yes Q No	
	• Date you repaired the leak	Q Yes Q No	
	• Date you removed the identification	Q Yes Q No	

## Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

### Section IV: Other diisocyanate components checklist (Option 1 or 2)

G. Requirements for Other Components in Diisocyanate Service	Comments
<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;">                     1 If you detect a leak from other components in diisocyanate service, do you first attempt to repair the leak within 5 calendar days and actually repair it within 15 calendar days unless you've determined that your equipment meets the delay of repair definition in 63.1296(f)? §63.1294(c)                 </div> <div style="width: 35%; text-align: center;">                     Q Yes   Q No                 </div> </div>	Date Leak Detected:  Date First Attempt at Repair:  Date Leak Repaired:  No. of components with leaks:
H. Recordkeeping Requirements for Other Components in Diisocyanate Service	Comments
1 Do you have a list of all <u>other components</u> in <b>diisocyanate</b> service? §63.1307(b)(i)	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div> No. of components in service:
2 For each <u>other component</u> in <b>diisocyanate</b> service that's leaking, do you attached to the equipment a readily visible identification number? §63.1307(b)(3)(i)(A)	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div> No. components tags:
3 For each <u>other component</u> in <b>diisocyanate</b> service that's leaking, do you remove the tag only after you've repaired the leak? §63.1307(b)(3)(i)(C)	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>
4 For each <u>other component</u> in <b>diisocyanate</b> service, do you keep the following records each time you detect a leak §63.1307(b)(3)(ii)	
<ul style="list-style-type: none"> <li>• Instrument and operator identification numbers and the equipment identification number</li> </ul>	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>
<ul style="list-style-type: none"> <li>• Date you detected the leak and dates of each attempt to repair the leak.</li> </ul>	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>
<ul style="list-style-type: none"> <li>• Repair methods applied in each attempt to repair the leak.</li> </ul>	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>
<ul style="list-style-type: none"> <li>• Words "above leak definition" if applicable</li> </ul>	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>
<ul style="list-style-type: none"> <li>• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days. Date you expect to repair the leak if not repaired within 15 calendar days</li> </ul>	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>
<ul style="list-style-type: none"> <li>• Date you repaired the leak</li> </ul>	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>
<ul style="list-style-type: none"> <li>• Date you removed the identification</li> </ul>	<div style="display: flex; justify-content: space-between;"> <div style="width: 55%;"></div> <div style="width: 35%; text-align: center;">                         Q Yes   Q No                     </div> </div>

## Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

### Section V: HAP ABA storage vessel checklist (Option 1)

I. Requirements for HAP ABA Storage Vessels			Comments
1	Have you equipped each HAP ABA storage vessel with a <b>vapor return line</b> (vapor-balance system) or a <b>carbon-adsorption</b> system? §63.1295(a)	Q Yes Q No	No. vessels with vapor-return line:  No. vessels with carbon-adsorption:
2	For each HAP ABA storage vessel with a <b>vapor-return line</b> , is the line connected from the storage vessel to the tank truck or rail car during each unloading? §63.1295(b)	Q Yes Q No	
3	For each HAP ABA storage vessel with a <b>vapor-return line</b> , do you inspect (visual, audible, olfactory, or other detection method) for leaks each time HAP ABA is unloaded from the tank truck or rail car? §63.1295(b)(1)	Q Yes Q No	Date Last Unloading:  Date last visible inspection:
4	For each HAP ABA storage vessel with a <b>vapor-return line</b> , if you found a leak, did you repair it before the next unloading event? §63.1295(b)(2)	Q Yes Q No	Date of leak:  Date Leak Repaired:  Date Subsequent Unloading:  No. of vessels with leaks:  No. of vessels repaired:
5	For each HAP ABA storage vessel with a <b>carbon-adsorption system</b> , do you route displaced vapors through activated carbon before discharging into the atmosphere? §63.1295(c)	Q Yes Q No	
6	For each <b>carbon-adsorption system</b> , do you replace the carbon after you find breakthrough and before the next unloading? §63.1295(c)	Q Yes Q No	Date of breakthrough:  Date of carbon replacement:  Date of Subsequent Unloading:  No. vessels with breakthrough:

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

J. Monitoring Requirements for HAP ABA <u>in</u> Storage Vessels			Comments
1	Do you determine the amount of HAP ABA <b>in</b> each storage vessel weekly? §63.1303(d)	Q Yes Q No	Method used:  Date Last Measurement:
2	Do you monitor the amount of HAP ABA <b>in</b> each storage vessel with a level-measurement device? §63.1303(d)	Q Yes Q No	
3	Did you calibrate each level-measurement device initially and then annually? §63.1303(d)(1)	Q Yes Q No	Date of Annual Calibration:
4	Unless the level-measurement device is a visually read device, such as a gauge glass, does the device have a digital or printed output? §63.1303(d)(2)	Q Yes Q No	Type of output:
5	If the level-measurement device is a visually read device, does it have permanent graduated markings to show the HAP ABA level in the storage tank? §63.1303(d)(3)	Q Yes Q No	
K. Monitoring Requirements for HAP ABA added <u>to</u> Storage Vessels			Comments
1	Do you monitor the amount of HAP ABA added <b>to</b> a storage vessel by measuring the <b>volume</b> , <b>weight</b> or by an <b>alternative monitoring</b> program? §63.1303(e)	Q volume Q weight Q alternate	No. vessels using volume:  No. vessels using weight:  No. vessels using alternate:
2	If you measure using <b>volume</b> , do you record the volume of HAP ABA in each storage vessel before and after each delivery? §63.1303(e)(1)	Q Yes Q No	Date Last Delivery:  Volume before last delivery:  Volume after last delivery:
3	If you measure using the <b>volume</b> of HAP ABA delivered, does your measurement device follow the requirements outlined in section J of this checklist? §63.1303(e)(1)	Q Yes Q No	
4	If measuring using <b>volume</b> , is volume flow rate measured using a device with an accuracy of $\pm 2.0\%$ ? §63.1303(e)(2)	Q Yes Q No	Device Accuracy:
5	If measuring using <b>volume</b> , did you calibrate your device initially and at least once every 6 months? §63.1303(e)(2)	Q Yes Q No	Date Initial Calibration:  Date Last 2 Calibrations:

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

<b>K. Monitoring Requirements for HAP ABA added to Storage Vessels</b>				<b>Comments</b>
6	If measuring <b>weight</b> , do you measure by calculating the difference of the full weight of the transfer vehicle prior to unloading and the empty weight of the transfer vehicle after unloading? §63.1303(e)(3)	Q	Yes    Q No	Date of last transfer:  Wt of last full transfer vehicle:  Wt of last empty transfer vehicle:
7	If measuring <b>weight</b> , is your scale approved by your State or local agency using procedures in Handbook 44 or is it certified once per year by a registered scale technician? §63.1303(e)(3)(i) and (ii)	Q	Yes    Q No	No. scales approved by State:  No. scales approved by technician:
8	If your using an <b>alternative monitoring program</b> , have you submitted the plan for approval? Has the plan been approved? §63.1303(e)(4)	Q	Yes    Q No	Date Plan Submitted:  Date Plan Approved:
<b>L. Monitoring Requirements for Storage Vessels with Carbon-Adsorption</b> SKIP this section if you don't use a carbon-adsorption system on your storage vessels				<b>Comments</b>
1	Do you monitor the HAP or organic concentration in the exhaust-vent stream or outlet stream's exhaust from the <b>carbon adsorption</b> system during each unloading (or once a month if loading occurs more often than monthly)? Or, do you monitor at a regular interval established in your <u>design analysis</u> ? §63.1303(a)(1),(2)	Q	Yes    Q No	No. storage vessels measured at the carbon adsorption system:  No. vessels using design analysis:
2	If you monitor the HAP concentration in the <b>carbon-adsorption</b> system's exhaust, do you follow Method 18 and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(3)	Q	Yes    Q No	Value Method 18:
3	If you monitor the organic concentration in the <b>carbon-adsorption</b> system's exhaust, do you follow Method 25A and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(4)	Q	Yes    Q No	Value Method 24:
4	For each <b>carbon-adsorption</b> system monitored according to intervals in a <u>design analysis</u> , have you replaced the carbon at the specified interval? §63.1303(a)(2)	Q	Yes    Q No	Design's Replacement Interval:  Last Replacement of Carbon:



**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

<b>M. Recordkeeping Requirements for HAP ABA Storage Vessels</b>			<b>Comments</b>
1	Do you have a list of <b>HAP ABA</b> storage vessels that includes the type of control for each storage vessel? §63.1307(a)(2)	Q Yes Q No	No. vessels using emission point specific limit:
2	If you're complying with the requirements for <b>HAP ABA</b> storage vessels using <u>carbon-adsorption</u> , do you keep the following records? §63.1307(a)(3)		No. vessels using carbon-adsorption:
	• Dates and times when you monitor the system for carbon breakthrough	Q Yes Q No	
	• Reading from the monitoring device each time you monitor it	Q Yes Q No	
	• Date when you replaced the carbon	Q Yes Q No	
3	If you're complying with the requirements for <b>HAP ABA</b> storage vessels using <u>carbon-adsorption</u> with <b>alternative monitoring</b> , do you keep the following records? §63.1307(a)(3)		No. vessels using carbon adsorption:
	• Records of design analysis	Q Yes Q No	
	• Dates and times when you monitor the system for carbon breakthrough	Q Yes Q No	
	• Reading from the monitoring device each time you monitor it	Q Yes Q No	
	• Date when you replaced the carbon	Q Yes Q No	
4	If you're complying with the <b>HAP ABA</b> storage using a <u>vapor-return line</u> , do you keep the following records? §63.1307(a)(4), §63.1307(f)		No. vessels using vapor-return:
	• Dates and times of each unloading event	Q Yes Q No	
	• Dates and times of each inspection of the vapor-return line	Q Yes Q No	
	• Dates and times of each use of the vapor-return line	Q Yes Q No	
	• Dates and times you detect a leak in the vapor-return line	Q Yes Q No	
	• Dates and times when you repair a leak in the vapor-return line	Q Yes Q No	

## Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

### Section VI: HAP ABA equipment leaks checklist (Option 1)

N. Requirements for HAP ABA Equipment Leaks			Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines			
1	Is each <b>pump</b> in HAP ABA service either sealless or monitored for leaks? §63.1296(a)	Q sealless Q monitored	No. sealless pumps:  No. pumps monitored:
<i>if you're using a sealless pump, skip item 2-4 and go to 5</i>			
2	Do you monitor each <b>pump</b> quarterly by using Method 21 and weekly by visual inspection? §63.1296(a)(2)(i),(ii); §63.1304(a)	Q Yes   Q No	Last Quarterly Inspection:  Value Method 21:
3	If you detect a <b>pump</b> leak, do you first attempt to repair it within 5 calendar days and actually repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(a)(2)(iii)	Q Yes   Q No	Date Leak Detected:  Date First Attempt at Repair:  Date Leak Repaired:  No. of pumps with leaks:
4	Does your first attempt to repair a leaking <b>pump</b> include: tightening of packing gland nuts and ensuring the seal flush is operating at it's design pressure and temperature? §63.1296(a)(2)(iii)(B)	Q Yes   Q No	
5	Do you monitor each <b>valve</b> quarterly using Method 21? §63.1296(b)(1); §63.1304(a)	Q Yes   Q No	Last Quarterly Inspection:  Value Method 21:
6	If you detect a <b>valve</b> leak using Method 21, do you attempt to repair it within 5 calendar days and repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(b)(2); §63.1304(a)	Q Yes   Q No	Date Leak Detected:  Date First Attempt at Repair:  Date Leak Repaired:  No. of valves with leaks:
7	Does your first attempt to repair a leaking <b>valve</b> include: tightening of bonnet bolts, replacement of bonnet bolts, tightening gland nuts and lubricating the packing? §63.1296(b)(2)(ii)	Q Yes   Q No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

N. Requirements for HAP ABA Equipment Leaks			Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines			
8	For each <b>valve</b> you've designated as <u>unsafe-to-monitor</u> , do you have a written plan that requires monitoring as often as possible and repair of leaks as soon as possible? §63.1296(b)(3)(ii)	Q Yes Q No	No. of unsafe-to-monitor valves:
Note: <u>unsafe-to-monitor</u> valves are those valves that can't be monitored because personnel would be exposed to an immediate danger situation. §63.1296(b)(3)(i)			
9	Do you monitor and repair each <u>unsafe-to-monitor valve</u> according to your written plan? §63.1296(b)(3)(iii) and (iv)	Q Yes Q No	Date Last Monitored:  Plan Requirements for Monitoring:  Date Leak Last Detected:  Date Leak Repaired:  Plan Requirements for Leak Repair:
10	For each <b>valve</b> you've designed as <u>difficult-to-monitor</u> , do you have a written plan that requires monitoring at least once per calendar year and repair of leaks as soon as possible? §63.1296(b)(4)(iii)	Q Yes Q No	No. of difficult-to-monitor valves:
Note: <u>difficult-to-monitor</u> valves are those valves that can't be monitored without elevating personnel more than 2 meters above a support surface or the valve is not accessible at any time in a safe manner. Your valve must be an existing source or a new source where you have designed <3% of your valves as difficult-to-monitor. §63.1296(b)(4)(i), (ii)			
11	Do you monitor and repair each <u>difficult-to-monitor valve</u> according to your written plan? §63.1296(b)(4)(iv) and (v)	Q Yes Q No	Plan Requirements for Monitoring:  Date Last Monitored:  Plan Requirements for Leak Repair:  Date Leak Last Detected:  Date Leak Repaired:

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

N. Requirements for HAP ABA Equipment Leaks			Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines			
12	Do you monitor each <b>connector</b> annually using Method 21? §63.1296(c)(1); §63.1304(a)	Q Yes Q No	No of connectors monitored using Method 21:  Date Last Monitored:  Value Method 21:
13	If you've opened a <b>connector</b> or broken its seal, do you monitor it for leaks within the first 3 months after it's used for HAP ABA again? §63.1296(c)(1)(ii)	Q Yes Q No	Date Connector Opened/Seal Broken:  Date Connector Monitored:  No. Connectors Opened/Seal Broke:
14	If you've detected a leak, do you monitor the <b>connector</b> within the first 3 months after its repair? §63.1296(c)(1)(iii)	Q Yes Q No	Date Leak Detected:  Date Leak Repaired:  Date Leak Monitored:  No. Connectors with Leaks::
15	If you detect a <b>connector</b> leaking, do you try to repair it within 5 calendar days and repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(c)(2)	Q Yes Q No	Date Leak Detected:  Date First Attempt at Repair:
16	For each <b>connector</b> designated as <u>unsafe-to-monitor</u> , do you have a written plan that requires monitoring as often as possible and repair of leaks within 6 months? §63.1296(c)(3), (c)(4)(ii)	Q Yes Q No	No. unsafe-to-monitor connectors:
Note: <u>unsafe-to-monitor</u> connectors are those that can't be monitored because personnel would be exposed to an immediate danger situation. §63.1296(c)(3)(i)			
17	Do you monitor and repair each <u>unsafe-to-monitor</u> <b>connector</b> according to your written plan? §63.1296(c)(3)(ii)	Q Yes Q No	Plan Requirements for Monitoring:  Date Last Monitored:

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

N. Requirements for HAP ABA Equipment Leaks			Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines			
18	For each <b>connector</b> designated as <u>unsafe-to-repair</u> , do you repair the connector as soon as possible but no later than 6 months after you detected the leak? §63.1296(c)(4)(ii)	Q Yes Q No	Plan Requirement for Leak Repair:  Date Leak Detected:  Date Leak Repaired:
	Note: <u>unsafe-to-repair</u> connectors are those that can't be repaired because personnel would be exposed to an immediate danger situation. §63.1296(c)(4)(i)		
19	If you find evidence of a potential leak by visual, audible, or olfactory detection, do you monitor the <b>pressure-relief device</b> using Method 21 within 5 calendar days? §63.1296(d)(1); §63.1304(a)	Q Yes Q No	Date Potential Leak Last Detected:  Date Monitored:  Results Method 21:
20	If you detect a leak a <b>pressure-relief device</b> , do you first attempt repair it within 5 calendar days and actually repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(d)(2)	Q Yes Q No	No. pressure-relief devices with leaks:  Date Leak Detected:  Date First Attempt at Repair:  Date Leak Repaired:
21	Have you equipped each <b>open-ended valve or line</b> in HAP ABA service (except those in an emergency-shutdown system designed to open automatically during a process upset) with a cap, blind flange, plug, or a second valve? §63.1296(e)(i)	Q Yes Q No	
22	Do you keep <b>open-ended valve or line</b> sealed at all times, except when in use or during maintenance or repair? §63.1296(e)(1)(ii)	Q Yes Q No	
23	For each <b>open-ended valve or line</b> with a second valve, do you close the valve on the process fluid end before closing the second valve? §63.1296(e)(2)	Q Yes Q No	No. valves or lines with second valve:
24	For each <b>open ended valve or line</b> with a double-block-and-bleed system, do you keep the bleed-valve or line closed except during operations that require venting the line between the block-valves? §63.1296(e)(3)	Q Yes Q No	No. valves or lines with double-block-and-bleed:
O. Recordkeeping Requirements for HAP ABA Equipment Leaks			Comments
1	Do you have a list of transfer pumps, valves, connectors, pressure-relief devices and open-ended lines in <b>HAP ABA</b> service (components in service)? §63.1307(b)(1)(ii)	Q Yes Q No	No. of components in service:

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

<b>O. Recordkeeping Requirements for HAP ABA Equipment Leaks</b>				<b>Comments</b>
2	For each <b>component in service</b> that's leaking, do you attached to the equipment a readily visible identification number? <i>§63.1307(b)(3)(i)(A)</i>	Q	Yes Q No	No. components with tags:
3	For each <b>component in service</b> that's leaking, do you remove the tag only after you've repaired the equipment or after 2 successive quarters of no leaks if your equipment is a valve? <i>§63.1307(b)(3)(i)(C)</i>	Q	Yes Q No	
4	Do you keep the following records for <b>components in service</b> ? <i>§63.1307(b)(3)(ii)</i>			
	• Instrument and operator identification numbers and the equipment identification number	Q	Yes Q No	
	• Date you detected the leak and dates of each attempt to repair the leak.	Q	Yes Q No	
	• Repair methods applied in each attempt to repair the leak.	Q	Yes Q No	
	• Words "above leak definition" if applicable	Q	Yes Q No	
	• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days. Date you expect to repair the leak if not repaired within 15 calendar days	Q	Yes Q No	
	• Date you repaired the leak	Q	Yes Q No	
	• Date you removed the identification	Q	Yes Q No	

## Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

### Section VII: HAP ABA production line checklist (Option 1)

P. Requirements for HAP ABA Emissions from the Production Line			Comments
1	Do you determine compliance with the HAP ABA emission limits from the production line by using a <b>rolling-annual</b> or <b>monthly</b> basis? §63.1297(a)	Q rolling-annual Q monthly	No. lines using rolling-annual:  No. lines using monthly:
2	If you switch between the <b>rolling-annual</b> and <b>monthly</b> compliance options, do you make notification 180 calendar days prior to making the change? §63.1297(a)(3)	Q Yes   Q No	Date switched options:  Date of notification:
3	If you determine compliance on a <b>rolling-annual</b> basis, and don't use a recovery device, are actual HAP ABA emissions for each consecutive 12-month period less than allowable HAP ABA emissions for the same consecutive 12-months? §63.1297(b)	Q Yes   Q No	Value actual HAP ABA:  Value allowable HAP ABA:
4	If you determine compliance on a <b>rolling-annual</b> basis, and don't use a recovery device, do you calculate actual HAP ABA emissions as the sum of actual monthly HAP ABA emissions for each 12 month period? §63.1297(b)(1)	Q Yes   Q No	Value actual HAP ABA for last 12 months:  Value allowable HAP ABA:
5	If you determine compliance on a <b>rolling-annual</b> basis, and don't use a recovery device, do you use Equation 2 in §63.1297(b)(2) to calculate allowable HAP ABA emissions on the production for the 12-month period? §63.1297(b)(2); §63.1297(c)(2)	Q Yes   Q No	Value Equation 2:
6	If you determine compliance <b>monthly</b> , and don't use a recovery device, do you compare actual HAP ABA emissions to allowable HAP ABA emissions for each month? Do you determine actual by using HAP ABA added to the production line at the mixhead? §63.1297(a)(2)	Q Yes   Q No	Value actual HAP ABA:  Value allowable HAP ABA:
7	If you determine compliance <b>monthly</b> , and don't use a recovery device, are actual HAP ABA emissions less than the corresponding allowable level of HAP ABA emissions for the same month? §63.1297(c)	Q Yes   Q No	Value actual HAP ABA:  Value allowable HAP ABA:
8	If you determine compliance <b>monthly</b> , and don't use a recovery device, do you calculate actual monthly HAP ABA emissions as the amount of HAP ABA added to the production line at the mixhead? §63.1297(c)(1)	Q Yes   Q No	Value actual HAP ABA:  Value allowable HAP ABA:
9	If you determine compliance <b>monthly</b> , and don't use a recovery device, do you use Equation 2 in §63.1297(b)(2) to calculate allowable HAP ABA emissions for the month? §63.1297(b)(2)	Q Yes   Q No	Value Equation 2:

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

P. Requirements for HAP ABA Emissions from the Production Line			Comments
10	Except for formulation limits of zero, do you determined a HAP ABA <b>formulation limit</b> for each grade of foam produced? §63.1297(d)	Q Yes Q No	No. grades produced:  Formulation limit value:
11	Except for formulation limits of zero, for each <u>existing source</u> , do you use Equation 3 in §63.1297(d) to calculate HAP ABA <b>formulation limit</b> ? §63.1297(d)(1)	Q Yes Q No	Value equation 3:
12	Except for formulation limits of zero, for each <u>new source</u> , do you use Equation 3 in §63.1297(d) to calculate the HAP ABA <b>formulation limit</b> for each grade of foam with a density of 0.95 pound per cubic foot or less? §63.1297(d)(2)(i)	Q Yes Q No	Value equation 3:
13	Except for formulation limits of zero, for each <u>new source</u> , do you use Equation 3 in §63.1297(d) to calculate the HAP ABA <b>formulation limit</b> for each grade of foam with a density of 1.4 pound per cubic foot or less and an Indentation Force Deflection (IFD) of 15 pounds or less? §63.1297(d)(2)(ii)	Q Yes Q No	Value equation 3:
14	Except for formulation limits of zero, for each <u>new source</u> , with a foam grade density greater than 0.95 pounds per cubic foot and an IFD greater than 15 pounds, is the HAP ABA <b>formulation limit</b> zero? §63.1297(d)(2)(iii)	Q Yes Q No	Density:  Formulation limit:
15	Except for formulation limits of zero, for each <u>new source</u> with a foam grade density greater than 1.40 pounds per cubic foot, is the HAP ABA <b>formulation limit</b> zero? §63.1297(d)(2)(iv)	Q Yes Q No	Density:  Formulation limit:
16	Except for <b>formulation limits</b> of zero, do you determine the IFD and density for each foam grade within 10 working days of its production using §63.1304(b)? §63.1297(d)(3)	Q Yes Q No	Last production start date:  Last IFD and density determination:
17	If you're using a <u>recovery -device</u> and determine compliance on a <b>rolling-annual</b> or <b>monthly</b> basis, do you calculate allowable HAP ABA emissions using Equation 2 in §63.1297(e) monthly? §63.1297(e)	Q Yes Q No	Value equation 2:
18	If you're using a <u>recovery -device</u> and determine compliance on a <b>rolling-annual</b> or <b>monthly</b> basis, do you calculate actual monthly HAP ABA emissions according to Equation 4 in §63.1297(e)? §63.1297(e)(1)	Q Yes Q No	Value equation 4:
19	If you're using a <u>recovery-device</u> and determine compliance on a <b>rolling-annual</b> or <b>monthly basis</b> , have you submitted a HAP ABA monitoring program for approval? §63.1297(e)(2); §63.1303(c)	Q Yes Q No	No. recovery-devices used:  Date plan submitted:



### Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Q. Monitoring Requirements for HAP ABA Emissions from the Production Line when a Recovery Device is Used			Comments
SKIP this section if you don't use a recovery device			
1	Have you sent a recovered HAP monitoring and recordkeeping plan in for approval? §63.1303(c)	Q Yes Q No	Date Sent:
			Date Approved:
2	Does your equipment have a device showing the cumulative amount of HAP ABA recovered by the solvent-recovery device each month? §63.1303(c)(1)	Q Yes Q No	Last cumulative monthly value:
3	Has the manufacturer certified the device to be accurate within +/- 2.0 percent? §63.1303(c)(1)	Q Yes Q No	Device accuracy:
4	Do you measure after fully recovering the HAP ABA (i.e., after separating it from water introduced into the HAP ABA during regeneration)? §63.1303(c)(2)	Q Yes Q No	
R. Monitoring Requirements for HAP ABA and Polyol added to the Production Line at the mixhead			Comments
1	Do you continuously monitor the amount of <b>HAP ABA</b> added at the mixhead when foam is being poured or monitor under an <b>alternative monitoring program</b> ? §63.1303(b)(1)(i)	Q Yes Q No	
2	When monitoring <b>HAP ABA</b> added, do you measure using flow rate? §63.1303(b)(1)(ii)	Q Yes Q No	
3	When measuring <b>HAP ABA</b> added, does your monitoring device have an accuracy to within ±2.0 percent of the HAP ABA being measured? §63.1303(b)(3)	Q Yes Q No	Device Accuracy:
4	When measuring <b>HAP ABA</b> added, did you calibrate your measuring device initially and at least once each month? §63.1303(b)(3)(ii)	Q Yes Q No	Date Initial Calibration:
			Date Last 2 Calibrations:
5	Are you measuring <b>HAP ABA</b> at the beginning and end of a run of foam for the production of each grade of foam? §63.1303(b)(4)	Q Yes Q No	Value last beginning run:
			Value last end run:
6	Do you continuously monitor the amount of <b>polyol</b> added at the mixhead according to the rule or an <b>alternative monitoring program</b> ? §63.1303(b)(1)(i)	Q Yes Q No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

R. Monitoring Requirements for HAP ABA and Polyol added to the Production Line at the mixhead			Comments
7	If you're monitoring the amount of <b>polyol</b> , are you measuring using pump revolutions or flow rate? §63.1303(b)(2)	Q Yes Q No	No. monitoring using revolutions:  No. monitoring using flow rate:
8	If your monitoring the amount of <b>polyol</b> , does your monitoring device have an accuracy to within $\pm 2.0$ percent of the HAP ABA being measured? §63.1303(b)(3)	Q Yes Q No	Device Accuracy:
9	If your monitoring the amount of <b>polyol</b> , did you calibrate your measuring device initially and at least every 6 months? §63.1303(b)(3)(i)	Q Yes Q No	Date Initial Calibration:  Date Last 2 Calibrations:
10	Are you measuring <b>polyol</b> at the beginning and end of a run of foam for the production of each grade of foam? §63.1303(b)(4)	Q Yes Q No	Last beginning value:  Last end value:
11	If your using an <b>alternative monitoring program</b> , have you submitted the plan for approval? Has the plan been approved? §63.1303(b)(5)	Q Yes Q No	Date Plan Submitted:  Date Plan Approved:
S. Recordkeeping Requirements for HAP ABA at the Production Line			Comments
1	Do you have a list of HAP ABA Production lines? §63.1307(b)(ii)	Q Yes Q No	
2	If you're complying using the <b>rolling-annual</b> or <b>monthly</b> compliance option, do you keep the following production-line records daily? §63.1307(c)(1)(i)		
	• Foam run log, with a list of the grades produced during each run	Q Yes Q No	
	• Amount of polyol added to the production line for slabstock foam at the mixhead for each run	Q Yes Q No	
	• Results of the density and IFD testing for each grade of foam produced during each run of foam ( <b>not required</b> on grades of foam for which you've designated a zero formulation limit for HAP ABA)	Q Yes Q No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

<b>S. Recordkeeping Requirements for HAP ABA at the Production Line</b>		<b>Comments</b>
3	<p>If you're complying using the <b>rolling-annual</b> or <b>monthly</b> compliance option, do you keep the following records for each month? §63.1307(c)(1)(ii)</p> <ul style="list-style-type: none"> <li>• Listing of all foam grades produced during the month</li> <li>• Formulation limit for HAP ABA on each foam grade produced</li> <li>• Total allowable HAP ABA emissions for the month</li> <li>• Total amount of HAP ABA added at the mixhead during the month</li> <li>• Total amount of polyol used in the month for each foam grade produced (<b>not required</b> on grades of foam for which you've designated a zero formulation limit for HAP ABA)</li> </ul>	<p>Q Yes Q No</p> <p>Q Yes Q No</p> <p>Q Yes Q No</p> <p>Q Yes Q No</p> <p>Q Yes Q No</p>
4	<p>If you're complying using the <b>rolling-annual</b> or <b>monthly</b> compliance option, do you keep the following records for each month? §63.1307(c)(1)(iv)</p> <ul style="list-style-type: none"> <li>• Calibrations for each device used to measure polyol and HAP ABA added at the mixhead</li> </ul>	<p>Q Yes Q No</p>
5	<p>If you're complying using the <u>emission point specific limit</u>, <b>rolling-annual</b> option, do you keep the following records for each month? §63.1307(c)(1)(iii)</p> <ul style="list-style-type: none"> <li>• Sum of the total allowable HAP ABA emissions for the month and the previous 11 months</li> <li>• Sum of the total actual HAP ABA emissions for the month and the previous 11 months</li> </ul>	<p>Q Yes Q No</p> <p>Q Yes Q No</p>
<b>T. Recordkeeping Requirements for HAP ABA Emissions from the Production Line when a Recovery Device is Used</b>		<b>Comments</b>
SKIP this section if you don't use a recovery device		
1	<p>If you're complying using a <u>recovery device</u>, do you keep the following records? §63.1307(d)</p> <ul style="list-style-type: none"> <li>• Copy of your monitoring and recordkeeping program for recovered HAP ABA</li> <li>• Certification of the monitoring device's accuracy</li> <li>• Records of periodic calibration of the monitoring device</li> <li>• Records of parameter-monitoring results</li> <li>• Amount of HAP ABA recovered each time you measure it</li> </ul>	<p>Q Yes Q No</p> <p>Q Yes Q No</p> <p>Q Yes Q No</p> <p>Q Yes Q No</p> <p>Q Yes Q No</p>

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

**Section VIII: HAP ABA equipment cleaning checklist (Option 1)**

U. Requirements for HAP ABA Equipment Cleaning		Comments
1	Are your cleaning operations free of HAP or HAP based materials? §63.1298	Q Yes Q No
<hr/>		
V. Recordkeeping Requirements for HAP ABA Equipment Cleaning		Comments
1	Do you have a product data-sheet for each <b>equipment cleaner</b> you used? Does the product data-sheet include the HAP content, in kg of HAP/kg solids (or lb of HAP/lb of solids)? §63.1307(e)	Q Yes Q No
		Q Yes Q No

## Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

### Section IX: Sourcewide emission limit checklist (Option 2)

W. Requirements for Sourcewide Emission Limit			Comments
Note: This includes emissions from HAP ABA storage and equipment leaks, HAP ABA emissions from the production line and equipment cleaning			
1	Do you use <b>rolling-annual</b> or <b>monthly</b> methods to comply with the sourcewide allowable limits on HAP ABA emissions? §63.1299	Q annual Q monthly	
2	If you determine compliance on a <b>rolling-annual</b> basis and don't use a recovery device, are actual sourcewide HAP ABA emissions from the facility (including storage, equipment leaks, production line, and equipment cleaning) less than the sourcewide allowable HAP ABA emissions for each consecutive 12-month period? §63.1299(a)	Q Yes   Q No	Actual sourcewide value:  Allowable sourcewide value:
3	If you determine compliance on a <b>rolling-annual</b> basis and don't use a recovery device, do you calculate allowable HAP emissions for 12 consecutive months using equation 6? §63.1299(a); §63.1299(d)	Q Yes   Q No	Value Equation 6:
4	If you determine compliance on a <b>rolling-annual</b> basis and don't use a recovery device, do you use Equation 5 in §63.1299(c) to calculate the actual, monthly sourcewide HAP emissions? §63.1299(c)(1)	Q Yes   Q No	Value Equation 5:
5	If you determine compliance on a <b>rolling-annual</b> basis and don't use a recovery device, do you determine the amount of HAP ABA in a storage vessel weekly by monitoring using a level measurement device? §63.1299(c)(2); §63.1303(d)	Q Yes   Q No	Last weekly value:
6	If you determine compliance on a <b>rolling-annual</b> basis and don't use a recovery device, do you determine the amount of HAP ABA added to the storage vessel monthly by summing the individual HAP ABA deliveries that occur in that month? §63.1299(c)(3); §63.1303(e)	Q Yes   Q No	Last monthly value:
7	If you determine compliance on a <b>rolling-annual</b> basis and don't use a recovery device, do you calculate annual emissions by summing the actual monthly sourcewide HAP emissions for each of the individual 12 months in the period? §63.1299(c)(4)	Q Yes   Q No	
8	If you determine compliance on a <b>monthly</b> basis and don't use a recovery device, do you compare actual HAP emissions for each month to allowable HAP emissions for that month? §63.1299(b)	Q Yes   Q No	Last actual HAP value:  Last allowable HAP value:
9	If you determine compliance on a <b>monthly</b> basis and don't use a recovery device, do you use Equation 5 in §63.1299(c) to calculate actual, sourcewide, emissions? §63.1299(c)(1)	Q Yes   Q No	Value Equation 5:
10	If you determine compliance on a <b>monthly</b> basis and don't use a recovery device, do you determine the amount of HAP ABA in a storage vessel weekly by monitoring using a level measurement device? §63.1299(c)(2); §63.1303(d)	Q Yes   Q No	Last weekly value:

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

<b>W. Requirements for Sourcewide Emission Limit</b>			<b>Comments</b>
Note: This includes emissions from HAP ABA storage and equipment leaks, HAP ABA emissions from the production line and equipment cleaning			
11	If you <u>don't</u> use a solvent-recovery device and you determine compliance on a <b>monthly</b> basis, do you determine the amount of HAP ABA added to the storage vessel monthly by summing the individual HAP ABA deliveries that occur in that month? §63.1299(c)(3); §63.1303(e)	Q Yes   Q No	Last monthly value:
12	If you determine compliance on a <b>rolling-annual</b> or <b>monthly</b> basis and you use a <u>solvent-recovery device</u> , do you use Equation 6 to calculate the allowable HAP emissions for each month? §63.1299(e)	Q Yes   Q No	Value Equation 6:
13	If you determine compliance on a <b>rolling-annual</b> or <b>monthly</b> basis and you use a <u>solvent-recovery device</u> , do you use Equation 7 to calculate actual, monthly, HAP ABA emissions? §63.1299(e)(1)	Q Yes   Q No	Value Equation 7:
14	If you determine compliance on a <b>rolling-annual</b> or <b>monthly</b> basis and you use a <u>solvent-recovery device</u> , have you submitted a HAP ABA monitoring program for approval? §63.1299(e)(2); §63.1303(c)	Q Yes   Q No	Submittal date: Approval date:
<b>X. Monitoring Requirements for Sourcewide Emissions when a Recovery Device is Used</b>			<b>Comments</b>
SKIP this section if you don't use a recovery device			
1	Have you sent a recovered HAP monitoring and recordkeeping plan in for approval? §63.1303(c)	Q Yes   Q No	Date Sent:  Date Approved:
2	Does your equipment have a device showing the cumulative amount of HAP ABA recovered by the solvent-recovery device each month? §63.1303(c)(1)	Q Yes   Q No	Last cumulative monthly value:
3	Has the manufacturer certified the device to be accurate within +/- 2.0 percent? §63.1303(c)(1)	Q Yes   Q No	Device accuracy:
4	Do you measure after fully recovering the HAP ABA (i.e., after separating it from water introduced into the HAP ABA during regeneration)? §63.1303(c)(2)	Q Yes   Q No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

Y. Recordkeeping Requirements for Sourcewide Emissions	Comments
<p>1 If you're complying using <b>rolling-annual</b> or <b>monthly</b> compliance option, do you keep the following production-line records daily? §63.1303(c)(2)(i)</p>	
<ul style="list-style-type: none"> <li>• Foam run log, with a list of the grades produced during each run</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Amount of polyol added to the production line for slabstock foam at the mixhead for each run (<b>not required</b> if zero is the formulation limit for HAP ABA)</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Results of the density and IFD testing for each grade of foam produced during each run of foam (<b>not required</b> on grades of foam for which you've designated a zero formulation limit for HAP ABA)</li> </ul>	Q Yes Q No
<p>2 If you're complying using <b>rolling-annual</b> or <b>monthly</b> compliance option, do you keep weekly records of the storage tank level? §63.1303(c)(2)(ii)</p>	
<p>3 If you're complying using <b>rolling-annual</b> or <b>monthly</b> compliance option, do you keep the following records monthly? §63.1307(c)(2)(iii)</p>	
<ul style="list-style-type: none"> <li>• List of all foam grades produced during the month</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Formulation limit on residual HAP for each foam grade produced</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Total amount of polyol used in the month for each foam grade produced (<b>not required</b> if zero is the formulation limit for HAP ABA)</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Total allowable HAP ABA and equipment-cleaning emissions for the month</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Total actual sourcewide emissions of HAP ABA for the month</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Amounts of HAP ABA in the storage vessel at the beginning and end of the month</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Amount of each delivery of HAP ABA to the storage vessel</li> </ul>	Q Yes Q No
<p>4 If complying by the <b>rolling-annual</b> or <b>monthly</b> option, do you keep the following? §63.1307(c)(2)(v) - (vii)</p>	
<ul style="list-style-type: none"> <li>• Records of all calibrations for each device used to measure polyol added at the mixhead</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Records of all calibrations for each device used to measure amount of HAP ABA in the storage vessel</li> </ul>	Q Yes Q No
<ul style="list-style-type: none"> <li>• Written confirmation of State or local approval of scales, or the registered scale technician's report for all scales used to measure the amount of HAP ABA added to storage vessels</li> </ul>	Q Yes Q No

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

Y. Recordkeeping Requirements for Sourcewide Emissions		Comments
5	If you're complying using the <b>rolling-annual</b> option, do you keep the following records monthly? §63.1307(c)(2)(iv)	
	<ul style="list-style-type: none"> <li>Total allowable HAP ABA and equipment-cleaning emissions of HAP for the month and the previous 11 months.</li> </ul>	Q Yes Q No
	<ul style="list-style-type: none"> <li>Total actual HAP ABA and equipment-cleaning emissions of HAP for the month and the previous 11 months.</li> </ul>	Q Yes Q No
<hr/>		
Z. Recordkeeping Requirements for Sourcewide Emissions when a Recovery Device is Used		Comments
SKIP this section if you don't use a recovery device		
1	If you're complying using a <u>recovery device</u> , do you keep the following records? §63.1307(d)	
	<ul style="list-style-type: none"> <li>Copy of your monitoring and recordkeeping program for recovered HAP ABA</li> </ul>	Q Yes Q No
	<ul style="list-style-type: none"> <li>Certification of the monitoring device's accuracy</li> </ul>	Q Yes Q No
	<ul style="list-style-type: none"> <li>Records of periodic calibration of the monitoring device</li> </ul>	Q Yes Q No
	<ul style="list-style-type: none"> <li>Records of parameter-monitoring results</li> </ul>	Q Yes Q No
	<ul style="list-style-type: none"> <li>Amount of HAP ABA recovered each time you measure it</li> </ul>	Q Yes Q No



## Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

### Section X: Testing checklist (Options 1 or 2 as required)

AA.	Testing Requirements		Comments
1	For each time you use Method 21, is the instrument's response factor based on the fluid's average composition, rather than on the individual VOC in the stream? §63.1304 (a)(2)	Q Yes Q No	
2	If the source stream contains nitrogen, air, or other inerts that aren't HAP or VOC, do you calculate the average stream response factor on an inert-free basis? §63.1304 (a)(2)	Q Yes Q No	
3	Do you calibrate the detection instrument before each use on the day of its use according to Method 21, Appendix A, of 40 CFR Part 60? §63.1304 (a)(3)	Q Yes Q No	Date Last Use:  Date Last Calibration:
4	Are calibration gases zero air (less than 10 ppm of hydrocarbon in air)? §63.1304 (a)(4)	Q Yes Q No	Calibration gas used:
5	Are calibration gases a mixture of methane and air at a concentration of about 1,000 ppm for all transfer pumps and 500 ppm for all other equipment? §63.1304 (a)(4)	Q Yes Q No	
6	If the instrument design allows for multiple concentrations of gas, is the lower concentration no higher than 2,000 ppm methane and the higher concentration no higher than 1,000 ppm methane? §63.1304 (a)(4)	Q Yes Q No	
7	Do you monitor when the equipment is in HAP ABA service, with an acceptable surrogate volatile organic compound that isn't a HAP ABA, or with any other detectable gas or vapor? §63.1304 (a)(5)	Q Yes Q No	
8	If the instrument used for monitoring doesn't meet the performance criteria in Method 21, do you adjust readings by multiplying the average response factor for the stream? §63.1304 (a)(6)	Q Yes Q No	Value average response factor:
9	Unless the formulation limit for HAP ABA is zero, do you use ASTM D3574 to determine the IFD for each grade of foam produced during each run? §63.1304 (b)	Q Yes Q No	
10	Do you cut each sample of foam from the center of the foam bun? §63.1304 (b)	Q Yes Q No	
11	Is each sample of foam no larger than 24 inches by 24 inches by 4 inches? §63.1304 (b)	Q Yes Q No	

**Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)**

**Section XI: Reporting Requirements (Options 1 or 2)**

BB.	Reporting Requirements		Comments
1	Did you send in an <b>initial notification form?</b> §63.1306(a)	Q Yes Q No	Date submitted:
2	Have you applied for <b>approval of construction or reconstruction?</b> §63.1306(b)	Q Yes Q No	Date submitted:
3	Did you send in a <b>precompliance report?</b> §63.1306(c)	Q Yes Q No	Date submitted:
4	Did you send in a <b>notification of compliance status?</b> §63.1306(d)(4)	Q Yes Q No	Date submitted:
5	Do you send in <b>semiannual compliance reports</b> no later than 60 days after the end of the 180-day period? §63.1306(e)	Q Yes Q No	Date end of period: Date submitted:
6	Do you submit an <b>annual compliance certification?</b> §63.1306(g)	Q Yes Q No	Date first certification due: Date certification submitted:
7	If you <b>switch from emission point specific limit to sourcewide limit</b> , or vice versa, did you make notification before changing? §63.1306(f)	Q Yes Q No	Date Notification Submitted: Date Limit Switched:
8	If you <b>switch from rolling-annual to monthly</b> , or vice versa, did you make notification before changing? §63.1306(f)	Q Yes Q No	Date Notification Submitted: Date Method Switched:

**Additional comments:**

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## Chapter 4 - Complying with requirements for molded foam

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### What does the Molded section cover?

§63.1300 of the rule covers your molded foam process if your process meets **all** of the following conditions:

- emits a HAP
- is a molded foam production process
- is located at a plantsite that is a major source of HAPs
- is not exempt

**Definition.** *A molded flexible polyurethane process* means “a flexible polyurethane foam that is produced by shooting the foam mixture into a mold of the desired shape and size. Molded foam is primarily used in automobile, furniture, packaging, textiles and fiber manufacturing.”

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*About this Chapter:*

- Whenever you see “§,” we are referring to the section number of the rule. You can go to that section in the rule for more information
  - When you see a definition, it comes straight from the rule
- 

**Figure 4.1** (on page 67) shows a typical process for molded foam.

### What is exempt under this section?

Your molded foam process is exempt if it’s devoted exclusively to **either** of the following [§63.1290]:

- fabricating molded foam
- conducting research and development

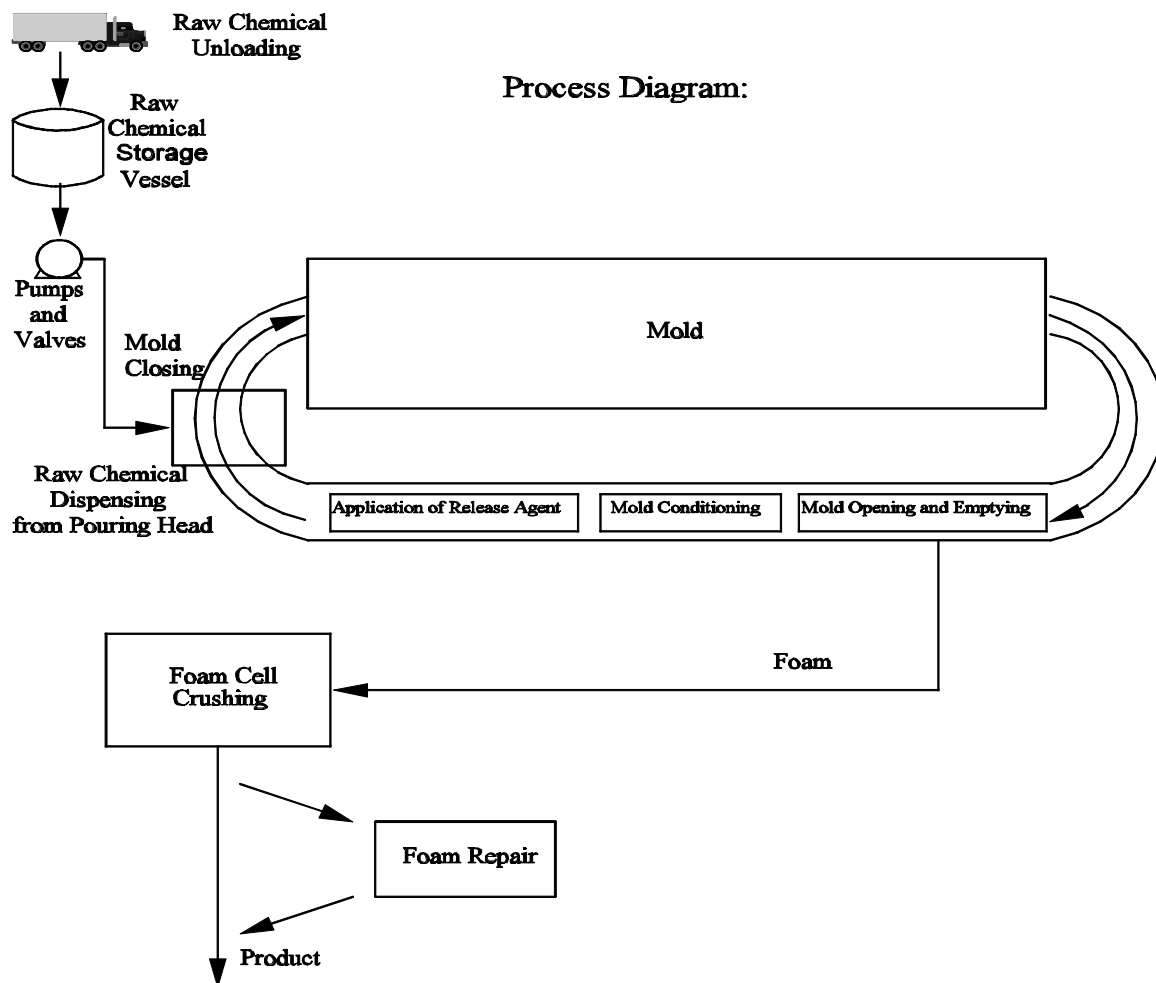
**Definition.** *Research and development process* means “a laboratory or pilot plant operation whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which is not engaged in the manufacture of products for commercial sale except in a *de minimis* manner.”

**Definition.** *Foam fabrication process* means “an operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates.”

**Figure 4.1**  
**A Typical Process for Molded-Foam Production**

**Process Description:**

Raw chemicals are unloaded into storage vessels. The chemicals are then pumped to a pouring head. The molds are sprayed with a mold release agent and preheated. After the chemicals are added to the mold, the mold is closed and heated to accelerate the cure. As the molds are opened, the product is taken out, and the mold is cleaned. Foam pieces removed from the mold are then crushed. Crushing breaks open the cells that release carbon dioxide, and holes are repaired. The piece is then ready for packaging and sale.



## What compliance options do I have?

You have **two** compliance options for molded foam.

- **Option 1:** do not use HAP-based materials in **any** of the following ways [§63.1300(a), (b)]:
  - as an equipment cleaner to flush the mixhead (except for diisocyanates)
  - as an equipment cleaner elsewhere in the process
  - as a mold-release agent

### Definitions.

*mold-release agent* means “any material (when applied to the mold surface) which prevents sticking of the foam part to the mold.”

*HAP-based* means “any compound used as an equipment cleaner or mold-release agent that contains five percent (by weight) or more of HAP.”

*mixhead* means “a device that mixes two or more component streams before dispensing the foam producing mixture to the desired container.”

The rule **does** allow you to use diisocyanates (but no other HAP) for flush cleaning the mixhead and associated piping. However, if you do use diisocyanates for flushing, you must meet **all** of the following conditions [§63.1300(a)]:

- flushing occurs only during startup or maintenance
  - diisocyanates are contained in a closed-loop system
  - diisocyanates are reused in production
- **Option 2:** you may submit an **alternative means of emission limitation** under §63.1305. You can submit your request in your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time, as long as it contains the information required in §63.1305. Your request must be approved by the **EPA** before you use it. See **Chapter 7** for additional information.

## What monitoring must I do?

None for molded foam production.

## What records must I keep?

You must keep **two** basic pieces of information for each molded foam process [§63.1307(g), (h)]:

- a product data-sheet (e.g., MSDS) for each solvent and mold-release agent you use
- the HAP content for each solvent or mold-release agent you use (in kg of HAP/kg solids or lb HAP/lb solids)

## What reports must I submit?

You must submit **four** types of reports on each molded foam plant:

- an initial notification [§§63.1306(a), 63.9(b)]
- an application for approval for construction or reconstruction [§§63.1306(b), 63.5(d)]
- a notification of compliance status [§63.1306(d)]
- an annual compliance certification [§63.1306(g)]

For additional reporting information including dates and example forms, see **Chapter 7**. The forms are optional, but you may find them useful.

## How do I show compliance?

You can show compliance with §63.1300 by following **all** these requirements [Table 5 of the rule]:

- don't use a HAP-based material as an equipment cleaner (except for diisocyanates) [§63.1300(a)]
- don't use a HAP-based mold-release agent [§63.1300(b)]
- maintain product data-sheets for each solvent you use [§63.1307(g)]
- maintain product data-sheets for each mold-release agent you use [§63.1307(h)]

You will violate §63.1300 if you do **any** of the following [§63.1308(e)]:

- fail to meet the requirements in §63.1300
- use a HAP-based material in the molded foam process (except for diisocyanates)
- use a HAP-based mold-release agent

## Is an inspection checklist available?

We've included an inspection checklist in **Table 4.1** (on page 70). You can use the checklist when you check your foam plant for compliance with the rule.

## Table 4.1 Checklist for Inspecting Molded foam Plants

**Facility Name:** \_\_\_\_\_  
**Facility Location:** \_\_\_\_\_  
**Facility TRI ID #:** \_\_\_\_\_  
**Person Conducting Evaluation:** \_\_\_\_\_  
**Date of Evaluation:** \_\_\_\_\_

	A. HAP Usage		Comments
	<b>Note:</b> If you answer NO to ALL questions in Section A, don't proceed. Your molded foam process isn't covered because you don't use HAPs.		
1	Do you use HAPs as an equipment cleaner to flush the mixhead or associated piping? §63.1300 (a)	Q Yes    Q No	
	<b>You may use diisocyanates as an equipment cleaner if you follow procedures in section B. If you use diisocyanates as an equipment cleaner, complete section B.</b>		
2	Do you use HAPs as an equipment cleaner elsewhere in the process? §63.1300 (a)	Q Yes    Q No	
3	Do you use HAPs as a mold-release agent? §63.1300 (b)	Q Yes    Q No	
	B. Flush Cleaning with Diisocyanates		Comments
1	Do you use diisocyanates as an equipment cleaner to flush the mixhead? §63.1300(a)	Q Yes    Q No	
2	Do you use diisocyanates as an equipment cleaner to flush associated piping? §63.1300(a)	Q Yes    Q No	
3	Do you use diisocyanates only during startup or maintenance? §63.1300(a)	Q Yes    Q No	
4	Are diisocyanates contained in a closed-loop system? §63.1300(a)	Q Yes    Q No	
5	Do you reuse diisocyanates in production? §63.1300(a)	Q Yes    Q No	
	C. Recordkeeping		Comments
1	Do you have product data-sheets for each compound used? §63.1307(g)	Q Yes    Q No	
2	Is HAP data available for each compound you use (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(g)	Q Yes    Q No	
3	Do you have product data-sheets for each mold-release agent use? §63.1307(h)	Q Yes    Q No	

**Table 4.1 Checklist for Inspecting Molded foam Plants (cont'd)**

C. Recordkeeping			Comments
4	Is HAP data available for each mold-release agent you use (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(h)	Q Yes Q No	
<hr/>			
D. Reporting			Comments
1	Did you submit an initial notification? §63.1306(a)	Q Yes Q No	Date last submitted:
<hr/>			
2	Have you applied for approval of construction or reconstruction? §63.1306(b)	Q Yes Q No	Date last submitted:
<hr/>			
3	Did you submit a notification of compliance status? §63.1306(d)(4)	Q Yes Q No	Date last submitted:
<hr/>			
4	Did you submit an annual compliance certification? §63.1306(g)	Q Yes Q No	Date last submitted:
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**Additional comments:**

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## Chapter 5 - Complying with requirements for rebond foam

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### What does the Rebond section cover?

§63.1301 of the rule covers your process for rebond foam your process meets **all** of the following conditions:

- is located at facility that is a major source of HAPs
- uses a HAP
- is a rebond foam production process
- is not exempt

**Definition.** *Rebond foam* means “the foam resulting from a process of adhering small particles of foam together to make a usable cushioning product. Various adhesives and bonding processes are used. A typical application for rebond foam is for carpet underlay.”

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#### *About this Chapter:*

- *Whenever you see “§,” we are referring to the section number of the rule. You can go to that section in the rule for more information*
  - *When you see a definition, it comes straight from the rule*
- 

§63.1301 covers these parts of your rebond foam process:

- storage areas for raw materials
- production equipment and associated piping, ductwork, etc.
- curing and storage areas

**Figure 5.1** (on page 73) shows a typical process for rebond foam.

### What is exempt under this section?

Your rebond foam process, or portions of your process, are exempt if it’s devoted exclusively to **either** of the following: [§63.1290(c)]

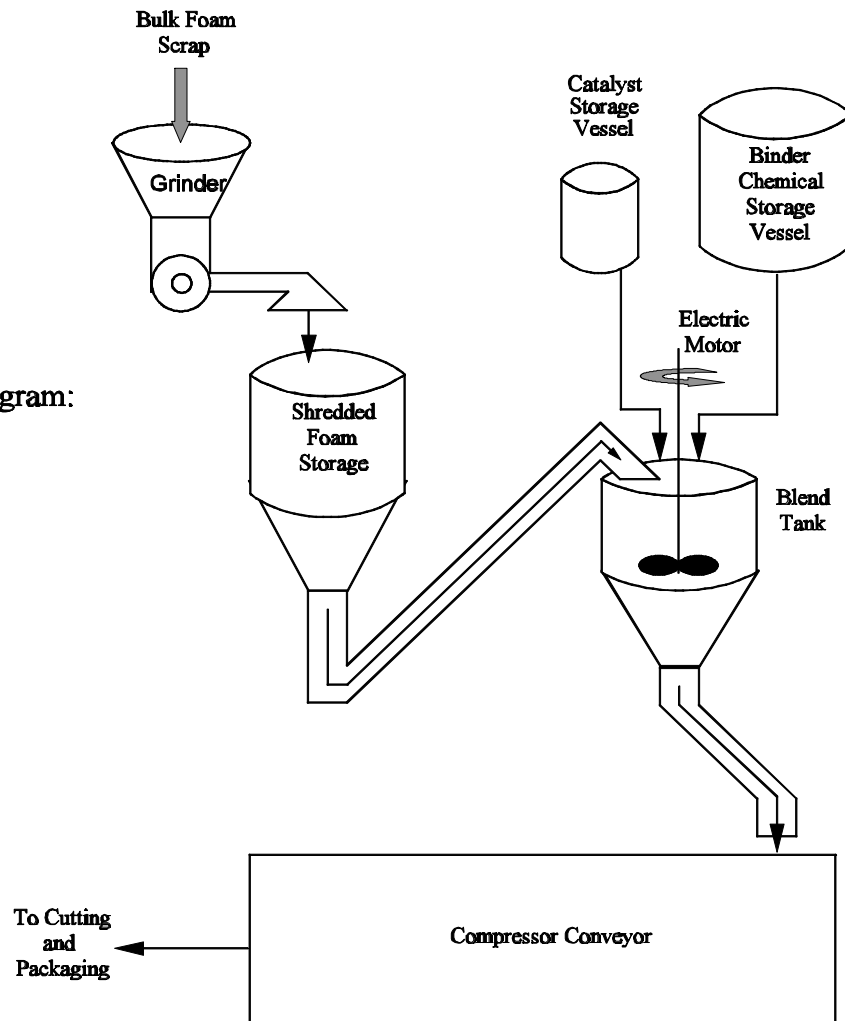
- fabricating rebond foam
- conducting research and development

**Figure 5.1**  
**A Typical Process from Rebond-Foam Production**

**Process Description:**

Bulk foam scrap is ground into suitable small pieces. The shredded pieces are funneled into a storage container. The pieces are then loaded into a blend tank, where a binder is added, which usually is a prepolymer of polyol and diisocyanate. After addition of the catalyst and thorough mixing, the foam/binder mixture is placed in a mold, compressed, and kept compressed during curing with heat and steam. After the rebonded-foam is set, it is cut and packaged.

**Process Diagram:**



**Definition.** *Research and development process* means “a laboratory or pilot plant operation whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which is not engaged in the manufacture of products for commercial sale.”

**Definition.** *Foam fabrication process* means “an operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates.”

## What compliance options do I have?

You have **two** compliance options for your rebond foam process.

- **Option 1:** do **not** use HAP-based materials in any of the following ways [§63.1301(a), (b)]:
  - as an equipment cleaner
  - as a mold-release agent

### Definitions.

*mold-release agent* means “any material (when applied to the mold surface) which prevents sticking of the foam part to the mold.”

*HAP-based* means “any compound used as an equipment cleaner or mold-release agent that contains five percent (by weight) or more of HAP.”

- **Option 2:** you may submit an **alternative means of emission limitation** under §63.1305. You can submit your request in your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time, as long as it contains the information required in §63.1305. Your request must be approved by the **EPA** before you use it. See **Chapter 7** for additional information.

## What monitoring must I do?

None for rebond foam.

## What records must I keep?

You must keep **two** basic pieces of information for each rebond foam process [§63.1307(g), (h)]:

- a product data-sheet for each solvent and mold-release agent you use
- the HAP content for each solvent or mold-release agent you use (in kg of HAP/kg solids or lb HAP/lb solids)

## What reports must I submit?

You must submit **four** types of reports for each rebond foam plant:

- an initial notification [§§63.1306(a), 63.9(b)]
- an application for approval of construction or reconstruction [§§63.1306(b), 63.5(d)]
- a notification of compliance status [§63.1306(d)]
- an annual compliance certification [§63.1306(g)]

For additional reporting information including dates and example forms, see **Chapter 7**. The forms are optional, but you may find them useful.

## How do I show compliance?

You can show compliance with §63.1301 by meeting **all** of the following conditions [Table 5 of the rule]:

- don't use a HAP-based material as an equipment cleaner [§63.1301(a)]
- don't use a HAP-based mold-release agent [§63.1301(b)]
- maintain product data-sheets for each solvent you use [§63.1307(g)]
- maintain product data-sheets for each molded release agent you use [§63.1307(h)]

You will violate §63.1300 if you do **any** of the following [§63.1308(e)]:

- fail to meet the requirements in §63.1301
- use a HAP-based material in the rebond foam process
- use a HAP-based mold-release agent

## Is an inspection checklist available?

We've included an inspection checklist in **Table 5.1** (on page 76). You can use the checklist when you check your foam plant for compliance with the rule.

## Table 5.1 Checklist for Inspecting Rebond foam Plants

**Facility Name:** \_\_\_\_\_  
**Facility Location:** \_\_\_\_\_  
**Facility TRI ID #:** \_\_\_\_\_  
**Person Conducting Evaluation:** \_\_\_\_\_  
**Date of Evaluation:** \_\_\_\_\_

A. HAP Usage			Comments
<b>Note:</b> If you answer NO to ALL questions in Section A, don't proceed. Your rebond foam process isn't covered because you don't use HAPs.			
1	Do you use HAPs as equipment cleaners? §63.1301(a)	Q Yes   Q No	
2	Do you use HAPs as a mold-release agent? §63.1301(b)	Q Yes   Q No	
B. Recordkeeping			Comments
1	Do you have product data-sheets available for each compound used? §63.1307(g)	Q Yes   Q No	
2	Is HAP data available for each compound use (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(g)	Q Yes   Q No	
3	Do you have product data-sheets for each mold-release agent you use? §63.1307(h)	Q Yes   Q No	
4	Is HAP data available for each mold-release agent you use? (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(h)	Q Yes   Q No	
C. Reporting			Comments
1	Did you submit an initial notification form? §63.1306(a)	Q Yes   Q No	Date last submitted:
2	Have you applied for approval of construction or reconstruction? §63.1306(b)	Q Yes   Q No	Date last submitted:
3	Did you submit a notification of compliance status? §63.1306(d)(4)	Q Yes   Q No	Date last submitted:
4	Did you submit an annual compliance certification? §63.1306(g)	Q Yes   Q No	Date last submitted:

**Additional comments:**

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### How do I calculate $HAP_{used}$ to see if I'm exempt from the rule?

If your slabstock foam production process is at a facility that uses less than five tons per year of HAP ( $HAP_{used}$ ), it may be exempt from the rule [§63.1290(c)(3)].  $HAP_{used}$  refers to the amount of HAP chemicals used, not to HAP emissions.

$HAP_{used}$  is the total amount of HAP (excluding diisocyanate used as a reactant) that the facility consumes. This exemption is only allowed if your slabstock foam production and foam-fabrication processes are the only processes at the plant site that emit HAP.

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*Use Equation 1 to see if your facility uses less than 5 tons per year of HAP*

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In other words, this includes all HAP ABA used in the production of slabstock foam, all HAP cleaners used at the plant site, and all HAP adhesives used in foam fabrication operations at the plant site. It does not include diisocyanates used as a reactant to make the slabstock foam. It includes HAP used in **all** parts of the plant, including the ones that aren't producing slabstock foam. Equation 1 of the rule, §63.1290(c)(3), contains the  $HAP_{used}$  calculation. Following are two examples of facilities that are trying to take advantage of this exemption.

#### Example 1

##### Assumptions:

- The plant site includes two lines for slabstock foam production and foam-fabrication operations.
- Both slabstock production lines are equipped with liquid carbon dioxide ABA systems, but one line still uses 625 gallons per year of methylene chloride for specialty applications.
- 100 gallons of methylene chloride are used each year to clean the slabstock mixhead
- The foam fabrication operation uses 1,300 gallons of adhesive XYZ with the following properties:
  - Density of adhesive - 9.8 lb/gal
  - Methylene chloride content of adhesive - 60 weight percent

Equation 1 from the Rule:

$$HAP_{used} = \left[ \sum_{i=1}^m (VOL_{ABA,i})(D_{ABA,i}) + \sum_{j=1}^n (VOL_{clean,j})(D_{clean,j})(WT_{HAPclean,j}) + \sum_{k=1}^o (VOL_{adh,k})(D_{adh,k})(WT_{HAPadh,k}) \right] \div 2000$$

where,

HAP <sub>used</sub>	=	amount of HAP, excluding toluene diisocyanate reactants, used at the plant site for slabstock foam production and foam fabrication, tons per year
VOL <sub>ABA,i</sub>	=	volume of methylene chloride used as an ABA i at the facility - 625 gal per year
D <sub>ABA,i</sub>	=	density of methylene chloride ABA - 10.4 pounds per gal
m	=	number of HAP ABAs used - 1
VOL <sub>clean,j</sub>	=	volume of methylene chloride used as an equipment cleaner - 100 gal per year
D <sub>clean,j</sub>	=	density of methylene chloride equipment cleaner, 10.4 pounds per gal
WT <sub>HAPclean,k</sub>	=	HAP content of methylene chloride equipment cleaner - 100 weight percent
n	=	number of HAP equipment cleaners used - 1
VOL <sub>adh,k</sub>	=	volume of adhesive XYZ used - 1,300 gal per year
D <sub>adh,k</sub>	=	density of adhesive XYZ - 9.8 pounds per gal (from MSDS)
WT <sub>HAPadh,k</sub>	=	methylene chloride content of adhesive XYZ - 60 weight percent (from MSDS)
o	=	number of adhesives used - 1

$$HAP_{used} = \frac{(625)(10.4) + (100)(10.4)(1.0) + (1,300)(9.8)(0.60)}{2,000} = 7.6 \text{ tons/yr}$$

Therefore, for Example 1, this plant's production lines for slabstock foam **would not** be exempt from the rule under §63.1290(b)(5), since the total HAP used is greater than 5 tons per year.

## Example 2

### Assumptions:

- The plant site includes a production line for slabstock foam and foam-fabrication operations.
- The slabstock production line uses acetone as an ABA.
- No HAPs are used as equipment cleaners.
- The foam-fabrication operation uses 1,200 gallons of the water-based adhesive DEF, plus 2,500 gallons of adhesive ABC with the following properties:  
 Density of adhesive - 10.1 lb/gal  
 Methylene chloride content of adhesive - 70 weight percent

$$HAP_{used} = \left[ \sum_{i=1}^m (VOL_{ABA,i})(D_{ABA,i}) + \sum_{j=1}^n (VOL_{clean,j})(D_{clean,j})(WT_{HAPclean,j}) + \sum_{k=1}^o (VOL_{adh,k})(D_{adh,k})(WT_{HAPadh,k}) \right] \div 2000$$

where:

$HAP_{used}$	=	amount of HAP, excluding TDI reactants, used at the plantsite for slabstock foam production and foam fabrication, tons per year
$VOL_{ABA,i}$	=	volume of HAP ABA used at the facility - N/A
$D_{ABA,i}$	=	density of HAP ABA - N/A
$m$	=	number of HAP ABAs used - 0
$VOL_{clean,j}$	=	volume of HAP used as equipment cleaner - NA
$D_{clean,j}$	=	density of HAP equipment cleaner, N/A
$WT_{HAPclean,k}$	=	HAP content of equipment cleaner - N/A
$n$	=	number of HAP equipment cleaners used - 0
$VOL_{adh,ABC}$	=	volume of adhesive ABC used - 2,500 gal /yr
$D_{adh,ABC}$	=	density of adhesive ABC - 10.1 pounds per gal (from MSDS)
$WT_{HAPAdh,ABC}$	=	methylene chloride content of adhesive ABC - 70 weight percent (from MSDS)
$VOL_{adh,DEF}$	=	volume of adhesive DEF used - 1,200 gal /yr
$D_{adh,DEF}$	=	density of adhesive DEF - N/A
$WT_{HAPadh,DEF}$	=	HAP content adhesive ABC - 0 weight percent
$o$	=	number of adhesives used - 2



$$HAP_{used} = \frac{(0)(0) + (0)(0)(0) + [(1,000)(10.2)(0.70) + (1,000)(0)(0)]}{2,000} = 3.6 \text{ tons/yr}$$

Therefore, for Example 2, the slabstock foam process **would** be exempt from the regulation according to §63.1290(c)(3) since the total HAP used is less than 5 tons per year.

## How do I calculate the HAP ABA formulation limit for a grade of foam?

The HAP ABA formulation limit is used to calculate the allowable HAP ABA emissions (if your using the emission point specific compliance option) and the allowable sourcewide HAP emissions (if using the sourcewide compliance option).

---

*Use Equation 3 to calculate the HAP ABA formulation limit*

---

Equation 3 of the rule [§63.1297(d)(1)] contains the HAP formulation limit. To determine the limit for a foam grade, you need the Indentation Force Density (IFD) in pounds and the density in pounds per cubic foot (pcf). Following are two examples of determining this limit.

### Example 3

#### Assumption:

- You want to make a foam with a density of 1.2 pounds per cubic foot (pcf) and an IFD of 28 pounds.

Equation 3 from the rule:

$$ABA_{limit} = -0.25(IFD) - 19.1\left(\frac{1}{IFD}\right) - 16.2(DEN) - 7.56\left(\frac{1}{DEN}\right) + 36.5$$

where:

ABA<sub>limit</sub> = HAP ABA formulation limitation, parts HAP ABA allowed per hundred parts polyol (pph).  
 IFD = Indentation force deflection of the foam grade you want to produce - 28 pounds.

DEN = Density of the foam grade you want to produce - 1.2 pounds per cubic foot (pcf).

Note: The IFD and density used in the determining the HAP ABA formulation limit are the values measured using ASTM D3574 (in accordance with §63.1304(b)) **after** the production of the foam grade, and not the planned IFD and density.

$$ABA_{limit} = -0.25(28) - 19.1\left(\frac{1}{28}\right) - 16.2(1.2) - 7.56\left(\frac{1}{1.2}\right) + 36.5 = 3 \text{ } pph$$

Therefore, the limit for foam with a density of 1.2 pcf and an IFD of 28 pounds is 3 parts HAP ABA per 100 parts polyol.

#### Example 4

##### Assumption:

- You want to make a foam with a density of 2.1 pcf and an IFD of 30 pounds.

Using Equation 3 from the rule (see above), where:

ABA<sub>limit</sub> = HAP ABA formulation limitation, parts HAP ABA allowed per hundred parts polyol (pph).

IFD = Indentation force deflection of the foam grade you want to produce - 30 pounds.

DEN = Density of the foam grade you want to produce - 2.1 pounds per cubic foot (pcf).

The HAP ABA formulation limitation would be calculated as follows:

$$ABA_{limit} = -0.25(30) - 19.1\left(\frac{1}{30}\right) - 16.2(2.1) - 7.56\left(\frac{1}{2.1}\right) + 36.5 = -9 \text{ } pph$$

Paragraph §63.1297(d)(1) states that the HAP ABA formulation limit is zero for any grade of foam if the result of the equation is negative. Therefore, the limit for foam with a density of 2.1 pcf and an IFD of 30 pounds is 0 parts HAP ABA per 100 parts polyol.

## How do I calculate allowable HAP ABA emissions to comply using the emission point specific limit?

The allowable level of HAP ABA emissions depends on the mix of foam grades you produce during the compliance period. Use Equation 2 of the rule [§63.1297(b)(2)] to calculate it.

Except in cases where a recovery device is used, the allowable level of HAP ABA emissions is equal to the maximum amount of HAP ABA you can use because 100

percent of the ABA used volatilizes and is emitted. Calculate allowable HAP ABA emissions for each individual month using the following equation:

---

*Use Equation 2 to calculate allowable HAP ABA emissions*

---

Equation 2 from the rule:

$$emiss_{allow,month} = \sum_{j=1}^m \left( \sum_{i=1}^n \frac{(limit_i)(polyol_i)}{100} \right)_j$$

where:

$emiss_{allow,month}$	=	Allowable HAP ABA emissions from the slabstock affected source for the month, pounds
$m$	=	Number of production lines for slabstock foam at the affected source
$n$	=	Number of foam grades produced in the month on foam-production line $j$
$limit_i$	=	HAP ABA formulation limit for foam grade $i$ , parts HAP ABA per 100 parts polyol
$polyol_i$	=	Amount of polyol used in the month in producing foam grade $i$ on foam-production line $j$ , pounds

To determine the allowable emissions of HAP ABA, use these three basic steps:

- Step 1:** Determine the HAP ABA formulation limitation for each grade
- Step 2:** For each month, determine the amount of polyol used to produce each grade
- Step 3:** Calculate the allowable HAP ABA emissions for each month

The rule allows **two** options: monthly and rolling-annual compliance. Under the monthly compliance, compare actual HAP emissions to the allowable HAP emissions for each month. Under rolling-annual compliance, compare the allowable HAP ABA emissions for 12 consecutive months to the actual HAP ABA emissions for the same period. The allowable HAP ABA emissions for 12

consecutive months are the sum of allowable monthly HAP ABA emissions for each of the 12 months in the period. Therefore, if you're using rolling-annual compliance, follow the three steps above and then:

**Step 4:** Sum the allowable HAP ABA emissions for each month in the 12-month period.

Example 5 below shows the calculation of allowable HAP ABA emissions using these four steps.

**Example 5:**

**Assumption:**

- For June 2002, a slabstock foam facility manufactures the mix of foam grades shown in Table 6.1 (on page 86), using the amount of polyol for each grade shown in Table 6.3 (page 88).

**Step 1 for Example 5**

The first step in calculating allowable HAP ABA emissions is to determine the HAP ABA formulation limit for each grade. Examples 3 and 4 showed how the HAP ABA formulation limit is calculated.

Additional examples of how to calculate the HAP ABA formulation limit are below. They show the calculation of HAP ABA formulation limit for foam grade 0930 (density of 0.9 pcf and IFD of 30 lbs) and foam grade 1540 (density of 1.5 pcf and IFD of 40 lbs). These two foam grades are shown in Table 6.1. Using Equation 3 from the rule (see Example 3), the HAP ABA formulation limit for the 0930 foam grade is calculated as follows:

$$ABA_{limit} = -0.25(30) - 19.1\left(\frac{1}{30}\right) - 16.2(0.9) - 7.56\left(\frac{1}{0.9}\right) + 36.5 = 5 \text{ } pph$$

Therefore, the HAP ABA formulation for foam grade 0930 is 5 pph.

For foam grade 1540, the calculation is as follows:

$$ABA_{limit} = -0.25(40) - 19.1\left(\frac{1}{40}\right) - 16.2(1.5) - 7.56\left(\frac{1}{1.5}\right) + 36.5 = -3 \text{ } pph$$

As previously explained, the HAP ABA formulation limit is zero for any grade of foam where the result of the equation is negative. Therefore, the HAP ABA formulation for foam grade 1540 is 0 pph. Table 6.2 (on page 87) provides the HAP ABA formulation limitations for all of the foam grades produced by this example facility.

### Step 2 for Example 5

The second step in determining the HAP ABA formulation limit is to obtain the amount of polyol used for each grade of foam during the compliance period. In this case, the amount of polyol used by foam grade is shown in Table 6.3

### Step 3 for Example 5

The third step is to calculate the allowable HAP ABA emissions for the month. Do this by using Equation 2 found in §63.1297(b)(2) of the rule.

Equation 2 from rule::

$$emiss_{allow,month} = \sum_{i=1}^m \left[ \sum_{i=1}^n \frac{(limit_i)(polyol_i)}{100} \right]_j$$

Where:

$emiss_{allow,month}$	=	Allowable HAP ABA emissions from the slabstock foam production source for the month, pounds.
$m$	=	Number of slabstock foam production lines.
$polyol_i$	=	Amount of polyol used in the month in the production of foam grade $i$ on foam-production line $j$ , pounds.
$n$	=	Number of foam grades produced in the month on foam production line $j$ .
$limit_i$	=	HAP ABA formulation limit for foam grade $i$ , parts HAP ABA per 100 parts polyol.

Calculate the **total** allowable HAP ABA emissions from the slabstock foam source for a month, by added together the allowable HAP ABA emissions for each foam grade. Following are examples of allowable HAP ABA emissions for foam grades 0930 and 1540.

For foam grade 0930, where:

$emiss_{allow,month,0930}$	=	Allowable HAP ABA emissions from the slabstock foam production source for the month for foam grade 0930, pounds.
----------------------------	---	------------------------------------------------------------------------------------------------------------------

m	=	Number of slabstock foam production lines that produce grade 0930 - 1
polyol <sub>i</sub>	=	Amount of polyol used in the month in the production of foam grade 0930 - 13,300 pounds.
limit <sub>i</sub>	=	HAP ABA formulation limit for foam grade 0930 - 5 parts HAP ABA per 100 parts polyol

$$emiss_{allow,month,0930} = \left( \frac{5 \text{ pounds HAP ABA allowed}}{100 \text{ pounds polyol}} \right) (13,300 \text{ pounds polyol}) = 665 \text{ pounds}$$

For foam grade 1540, where:

emiss <sub>allow,month,1540</sub>	=	Allowable HAP ABA emissions from the slabstock foam production source for the month for foam grade 1540, pounds.
m	=	Number of slabstock foam production lines that produce grade 1540 - 1
polyol <sub>i</sub>	=	Amount of polyol used in the month in the production of foam grade 1540 - 20,000 pounds.
limit <sub>i</sub>	=	HAP ABA formulation limit for foam grade 1540 - 0 parts HAP ABA per 100 parts polyol

$$emiss_{allow,month,1540} = \left( \frac{0 \text{ pounds HAP ABA allowed}}{100 \text{ pounds polyol}} \right) (20,000 \text{ pounds polyol}) = 0 \text{ pounds}$$

Table 6-3 provides the amount of polyol used and the allowable HAP ABA emissions for the month, for each grade of foam in Example 5. Table 6-3 shows the total allowable HAP ABA emissions for the example facility during June 2002 would be 4,320 pounds.

#### Step 4 for Example 5

You have **two** options on the compliance period you will use for HAP ABA emission limits - annual (i.e., rolling 12 month) or monthly. How you complete Step 4 will depend on which compliance option you choose.

#### Step 4 Using Annual Compliance Option for Example 5

Annual compliance is a rolling 12-month period. If you choose the annual option, the allowable HAP ABA emissions for the 12-month period would be the allowable HAP ABA emissions for the month (determined as discussed in Step 3 above), **plus** the allowable HAP ABA emissions for the previous 11 months. Here is an example.

##### Assumption:

- The allowable HAP ABA emissions for June 2002 was 4,320 pounds (as calculated in Step 3 above)
- The allowable HAP ABA emissions (in pounds) for the previous 11 months are:  
May 2002 - 4,112; April 2002 - 3,789; March 2002 - 2,125; February 2002 - 5,552;  
January 2002 - 4,001; December 2001 - 3,222; November 2001 - 2,247; October 2001 - 1,785; September 2001 - 3,555; August 2001 - 4,885; and July 2001 - 2,753.

Therefore, the total allowable HAP ABA emissions for the previous 11 months (e.g. July 2001 through May 2002) is 38,026 pounds. This value is added to the June 2002 monthly allowable emissions of 4,320 pounds. This gives you a total allowable HAP ABA emissions of 42,346 pounds for the 12-month compliance period.

#### Step 4 Using Monthly Compliance Option for Example 5

If you choose the monthly option, then the allowable HAP ABA emissions for the compliance period (i.e., the month) would be determined as discussed above, which is 4,320 pounds.

### **If I'm complying using the emission point specific limit without using a recovery device, how do I calculate actual monthly HAP ABA emissions?**

If you aren't using a recovery device to reduce HAP ABA emissions, your actual HAP ABA emissions are equal to the amount of HAP ABA you add at the mixhead. Determine the latter amount by monitoring the HAP ABA pump revolutions or flow rate. Following is an example of how to calculate actual HAP ABA emissions for the facility in Example 5.

---

*If you're not using a recovery device, the actual HAP ABA emissions are equal to the amount of HAP ABA added at the mixhead*

---

## Example 6

### Assumption:

- The example facility discussed in Example 5 added 4,420 pounds of methylene chloride at the mixhead during June 2002 (i.e., the same month for which the allowable HAP ABA emissions were determined in Example 5).

Therefore, the actual HAP ABA emissions for June 2002 are 4,420 pounds. To determine if you are in compliance for the compliance period, compare the actual HAP ABA emissions to the allowable HAP ABA emissions. Following are examples of this comparison for the two compliance options.

### Example 6 Using Annual Compliance Option

Annual compliance is a rolling 12-month period. If you choose the annual option, then the actual HAP ABA emissions for the compliance period (i.e., the 12-month period) would be the actual HAP ABA emissions for the month (4,420 pounds for our example 5 facility) **plus** the actual HAP ABA emissions for the 11 previous months. For example,

### Assumption:

- The actual HAP ABA emissions (in pounds) for the previous 11 months are:  
May 2002 - 3,514; April 2002 - 4,002; March 2002 - 2,052; February 2002 - 5,100;  
January 2002 - 3,750; December 2001 - 3,810; November 2001 - 2,440; October 2001 - 1,750; September 2001 - 3,226; August 2001 - 4,500; and July 2001 - 2,666.

Therefore, the total actual HAP ABA emissions for the previous 11 months (e.g. July 2001 through May 2002) is 37,278 pounds. This value is added to the total actual HAP ABA emissions of 4,420 pounds for June 2002 to obtain the total actual HAP ABA emissions for the 12-month compliance period (41,698 pounds).

To determine compliance, you will now compare the total actual HAP ABA emissions for the 12-month period (41,698 pounds) to the total allowable HAP ABA emissions for the same period (42,346 pounds). **Since the actual emissions are less than the allowable emissions for the 12 month period, you are in compliance.** This is true even though for five month out of the 12 months (November 2001, December 2001, March 2002, April 2002, and June 2002), your actual HAP ABA emissions exceeded the allowable HAP ABA emissions. This demonstrates the flexibility of the 12-month compliance period.



### Example 6 Using Monthly Compliance Option

If you choose the monthly option, compare the total actual HAP ABA emissions for the month (4,420 pounds), to the allowable HAP ABA emissions for the month (4,320 pounds). **Since the actual emissions are greater than the allowable emissions for the month, you are out of compliance.** You would also have been out of compliance for November 2001, December 2001, March 2002, and April 2002.

### If I'm complying with the emission point specific limit using a recovery device, how do I calculate actual emissions?

If you're using a recovery device to reduce HAP ABA emissions, the actual HAP ABA emissions are equal to the amount of HAP ABA you add at the mixhead minus the amount of HAP ABA recovered. Use Equation 4 of the rule [§63.1297(e)(1)] to calculate actual HAP ABA emissions when a recovery device is used.

---

*If you use a recovery device, your actual emissions are equal to the amount of HAP ABA added at the mixhead minus the amount of HAP ABA recovered. Use Equation 4 of the rule to calculate actual emissions.*

---

When a recovery device is used, the parameters needed to determine the actual HAP ABA emissions are the amount of HAP ABA added at the mixhead and the amount of HAP ABA recovered. Following is an example of actual emissions when using a recovery device for the facility used in Example 5.

### Example 7

#### Assumption:

- Assume that the example facility discussed in Example 5 added 26,000 pounds (2500 gallons at 10.4 lbs/gal) of methylene chloride at the mixhead and recovered 21,840 pounds (2100 gallons at 10.4 lbs/gal) of methylene chloride in June 2002.

The actual HAP ABA emissions for June 2002 would be calculated as follows.

Equation 4 from the rule:

$$E_{actual} = E_{unc} - HAPABA_{recovered}$$

where:

$$\begin{aligned} E_{\text{actual}} &= \text{Actual HAP ABA emissions after control, pounds/month.} \\ E_{\text{unc}} &= \text{Uncontrolled HAP ABA emissions - 26,000 pounds} \end{aligned}$$

$$\text{HAPABA}_{\text{recovered}} = \text{HAP ABA recovered} - 21,840 \text{ pounds}$$

Therefore, the actual HAP emissions for June 2002 would be 4,160 pounds.

To determine whether you are in compliance for the compliance period, compare the actual HAP ABA emissions to the allowable HAP ABA emissions. Following are examples of this comparison for the two compliance options.

### **Example 7 Using Annual Compliance Option**

Annual compliance period is a rolling 12-month period. Therefore, if you choose the annual option, the actual HAP ABA emissions for the compliance period (i.e., the 12-month period) would be the actual HAP ABA emissions for the month (4,160 pounds) **plus** the actual HAP ABA emissions for the 11 previous months. Following is an example.

#### **Assumption:**

- The actual HAP ABA emissions (in pounds) for the previous 11 months are:  
May 2002 - 3,514; April 2002 - 4,002; March 2002 - 2,052; February 2002 - 5,100;  
January 2002 - 3,750; December 2001 - 3,810; November 2001 - 2,440; October 2001 - 1,750; September 2001 - 3,226; August 2001 - 4,500; and July 2001 - 2,666.

Therefore, the total actual HAP ABA emissions for the previous 11 months (e.g. July 2001 through May 2002) is 37,278 pounds. This value is added to the total actual HAP ABA emissions of 4,160 pounds for June 2002 to obtain the total allowable HAP ABA emissions for the 12-month compliance period (41,438 pounds).

To determine compliance, compare the total actual HAP ABA emissions for the 12-month period (41,438 pounds), to the total allowable HAP ABA emissions for the same period (42,346 pounds). **Since the actual emissions are less than the allowable emissions for the 12 month period, you are in compliance.** This is true even though for four month out of the 12 months (November 2001, December 2001, March 2002, and April 2002) your actual HAP ABA emissions exceeded the allowable HAP ABA emissions. This demonstrates the flexibility of the 12-month compliance period.

### Example 7 Using Monthly Compliance Option

If you choose the monthly option, then compliance is determined by comparing the total actual HAP ABA emissions for the month (4,160 pounds), to the allowable HAP ABA emissions for the month (4,320 pounds). **Since the actual emissions are less than the allowable emissions for the month, you are in compliance.** However, you would have been out of compliance for November 2001, December 2001, March 2002, and April 2002.

### If I'm complying with the sourcewide emission limit, how do I calculate allowable emissions?

If you're complying with the sourcewide emission limit, the allowable sourcewide HAP emission level depends on the mix of foam grades produced during the compliance period. Equation 6 of the rule [§63.1299(d)] contains the allowable sourcewide HAP emission limit calculation. The allowable sourcewide HAP emission limit is determined in exactly the same manner as the allowable HAP ABA emission limit would be if complying using the emission point specific limitations. That is, Equation 6 (which calculates the sourcewide HAP limit) and Equation 2 (which calculates the HAP ABA emission limit) are identical.

#### Example 8

##### Assumptions:

---

*Use Equation 6 to calculate allowable sourcewide limits*

---

- A facility produces the same foam grades as those shown in Table 6.1.
- In June 2002, the facility used the amount of polyol for each foam grade shown in Table 6.3.

Therefore, the allowable sourcewide HAP emissions for the facility for June 2002 are 4,320 pounds. This level would be calculated exactly as shown in Example 5.

There are **two** choices regarding the compliance period for the sourcewide HAP emission limitation - annual (i.e., rolling 12 month) or monthly.

#### Example 8 Using Annual Compliance Option

The annual compliance period is a rolling 12-month period. Therefore, if you choose the annual option, then the allowable sourcewide HAP emissions for the compliance period (i.e., the 12-month period) would consist of the allowable sourcewide HAP emissions for the month **plus** the allowable sourcewide HAP emissions for the 11 previous months. For example,

- The allowable sourcewide HAP emissions (in pounds) for the previous 11 months are: May 2002 - 4,112; April 2002 - 3,789; March 2002 - 2,125; February 2002 - 5,552; January 2002 - 4,001; December 2001 - 3,222; November 2001 - 2,247; October 2001 - 1,785; September 2001 - 3,555; August 2001 - 4,885; and July 2001 - 2,753.

The total allowable sourcewide HAP emissions for the previous 11 months (e.g. July 2001 through May 2002) is 38,026 pounds. This value is added to the total allowable sourcewide HAP emissions of 4,320 pounds for June 2002 to obtain the total allowable sourcewide HAP emissions for the 12-month compliance period, (42,346 pounds).

### **Example 8 Using Monthly Compliance Option**

If you choose the monthly option, then the allowable sourcewide HAP emissions for the compliance period (i.e., the month) would be 4,320 pounds.

### **If I'm complying with the sourcewide emission limit without using a recovery device, how do I calculate actual sourcewide HAP emissions?**

If you're complying with the sourcewide emission limit, your actual sourcewide HAP emissions are determined by doing a material balance on the HAP ABA storage vessels. The inputs needed to determine the sourcewide emissions are the amounts of HAP ABA in all the storage vessels at the beginning of the month and at the end of the month. You will also need the amount of HAP ABA added to each storage vessel during the month.

---

*If you're not using a recovery device, use Equation 5 to calculate actual emissions*

---

Equation 5 of the rule [§63.1299(c)(1)] is used to calculate actual sourcewide HAP ABA and equipment emissions.

### **Example 9**

#### **Assumptions:**

- The facility discussed in Example 8 has two storage vessels for methylene chloride, each able to hold 10,000 gallons. Following are the data you need to calculate the actual, monthly, sourcewide emissions of HAP.

	Tank 1	Tank 2
Amount of MeCl <b>in</b> tank at beginning of month (lbs)	1,046	80,064
Amount of MeCl <b>in</b> tank at end of month (lbs)	47,300	78,400
Amount of MeCl <b>added</b> to tank (lbs)	50,000	0

Equation 5 from the rule:

$$PWE_{actual} = \sum_i^n (ST_{i,begin} - ST_{i,end} + ADD_i)$$

where:

- $PWE_{actual}$  = Actual sourcewide HAP ABA and equipment cleaning HAP emissions for a month, in pounds/month.
- $n$  = Number of HAP ABA storage vessels - 2.
- $ST_{1,begin}$  = Amount of HAP ABA in storage vessel 1 at the beginning of the month, 1,046 pounds.
- $ST_{1,end}$  = Amount of HAP ABA in storage vessel 1 at the end of the month, 47,300 pounds.
- $ADD_1$  = Amount of HAP ABA added to storage vessel 1 during the month, pounds - 50,000 pounds.

Therefore, the actual sourcewide HAP emissions for June 2002 are 5,140 pounds.

## If I'm complying with the sourcewide emission limit using a recovery device, how do I calculate actual emissions?

If you're complying with the sourcewide emission limitations using a recovery device, your actual sourcewide HAP emissions are calculated

by performing a material balance on the HAP ABA storage vessels and subtracting the amount of HAP ABA recovered. To do the calculation, you'll need to know the amount of HAP ABA in

all the storage vessels at the beginning of the month and at the end of the month, the amount of HAP ABA added to each storage vessel during the month, and the amount of HAP ABA recovered during the month.

---

*If you're using a recovery device, use Equation 7 to calculate actual sourcewide HAP emissions*

---

Equation 7 of the rule [§63.1299(e)] is used to calculate actual sourcewide HAP emissions when a recovery device is used.

**Example 10:**

**Assumptions:**

- For the facility discussed in Example 8, assume the following storage vessel data for June 2002.

	<b>Tank 1</b>	<b>Tank 2</b>
Amount of MeCl <b>in</b> tank at beginning of month (lbs)	2,346	40,000
Amount of MeCl <b>in</b> tank at end of month (lbs)	26,832	77,000
Amount of MeCl <b>added</b> to tank (lbs)	40,000	50,000

Lets assume that our example facility recovered 24,250 pounds of methylene chloride in June 2002.

Equation 7 from rule

$$E_{actual} = E_{unc} - HAPABA_{recovered}$$

where:

$E_{actual}$  = Actual sourcewide HAP emissions after control, pounds/month.

$$= \sum_i^n (ST_{i,begin} - ST_{i,end} + ADD_i)$$

$E_{unc}$  = Uncontrolled sourcewide HAP emissions =  
 $HAPABA_{recovered}$  = HAP ABA recovered, 24,250 pounds/month.

Therefore, the actual sourcewide HAP emissions for June 2002 are 4,264 pounds.

To determine whether you are in compliance for the compliance period, compare the actual

sourcewide HAP emissions to the allowable sourcewide HAP emissions. Following are examples of this comparison for the two compliance options.

### **Example 10 Using Annual Compliance Option**

Annual compliance period is a rolling 12-month period. Therefore, if you choose the annual option, the actual sourcewide HAP emissions for the compliance period (i.e., the 12-month period) would be the actual sourcewide HAP emissions for the month (4,264 pounds) **plus** the allowable HAP ABA emissions for the 11 previous months. For example,

#### **Assumptions:**

- The actual sourcewide HAP ABA emissions (in pounds) for the previous 11 months are:  
May 2002 - 3,514; April 2002 - 4,002; March 2002 - 2,052; February 2002 - 5,100;  
January 2002 - 3,750; December 2001 - 3,810; November 2001 - 2,440; October 2001 - 1,750; September 2001 - 3,226; August 2001 - 4,500; and July 2001 - 2,666.

The total actual sourcewide HAP ABA emissions for the previous 11 months ( e.g. July 2001 through May 2002) is 37,278 pounds. This value is added to the total actual HAP ABA emissions of 4,264 pounds for June 2002 to obtain the total actual HAP ABA emissions for the 12-month compliance period (41,542 pounds).

To determine compliance, the total actual sourcewide HAP emissions for the 12-month period (41,542 pounds), are compared to the total allowable sourcewide HAP emissions for the same period (42,346 pounds). **Since the actual emissions are less than the allowable emissions for the 12 month period, you are in compliance.** This is true even though for four of the 12 months (November 2001, December 2001, March 2002, and April 2002) the actual sourcewide HAP emissions exceeded the allowable HAP ABA emissions for the month. This demonstrates the flexibility of the 12-month compliance period.

### **Example 10 Using Monthly Compliance Option**

If you choose the monthly option, then compliance is determined by comparing the total actual sourcewide HAP emissions for the month (4,264 pounds) to the allowable HAP ABA emissions for the month (4,320 pounds). **Since the actual emissions are less than the allowable emissions for the month, you are in compliance.**

## **How can I check my slabstock process for leaks?**

The EPA Publication, APTI Course SI:417, Controlling VOC Emissions from Leaking Process Equipment (EPA 450/2-82-015), gives helpful information on how to sample equipment and where leaks may be. You can get information on how to get a copy of this self-instructional course by going to <http://www.epa.gov/oar/oaqps/eog/>.



**Table 6.1 Foam Grades Produced By The Example Facility**

This table shows the density and IFD for example foam grades, some of which are used in Chapter 6 examples for calculating HAP emissions.

<b>Grade</b>	<b>Density (pcf)</b>	<b>IFD (lbs)</b>
930	0.9	30
1010	1.0	10
1015	1.0	15
1020	1.0	20
1030	1.0	30
1120	1.1	20
1130	1.1	30
1230	1.2	30
1330	1.3	30
1340	1.3	40
1440	1.4	40
1520	1.5	20
1530	1.5	30
1540	1.5	40
1640	1.6	40
1740	1.7	40
1820	1.8	20
1830	1.8	30
1840	1.8	40
1930	1.9	30
1940	1.9	40
>2020	2.5	25

**Table 6.2 HAP ABA Formulation Limitations For Foam Grades Produced By The Example Facility**

This table shows the HAP ABA formulation limitations that have been calculated for various grades of foam.

<b>Grade</b>	<b>Density (pcf)</b>	<b>IFD (lbs)</b>	<b>HAP ABA Formulation Limitation (pph)</b>
930	0.9	30	5
1010	1.0	10	8
1015	1.0	15	8
1020	1.0	20	7
1030	1.0	30	5
1120	1.1	20	6
1130	1.1	30	4
1230	1.2	30	3
1330	1.3	30	1
1340	1.3	40	0
1440	1.4	40	0
1520	1.5	20	1
1530	1.5	30	0
1540	1.5	40	0
1640	1.6	40	0
1740	1.7	40	0
1820	1.8	20	0
1830	1.8	30	0
1840	1.8	40	0
1930	1.9	30	0
1940	1.9	40	0
>2020	>2.5	>25	0

**TABLE 6.3 Allowable HAP ABA Emissions For Foam Grades  
Produced By The Example Facility**

This table shows the allowable HAP ABA emissions, calculated for various grades of foam.

<b>Grade</b>	<b>Density (pcf)</b>	<b>IFD (lbs)</b>	<b>HAP ABA Formulation Limitation (pph)</b>	<b>Amount of polyol used in the month (pounds)</b>	<b>Allowable HAP ABA Emissions (pounds)</b>
930	0.9	30	5	13,300	665
1010	1.0	10	8	6,600	528
1015	1.0	15	8	6,700	536
1020	1.0	20	7	6,500	455
1030	1.0	30	5	13,500	675
1120	1.1	20	6	6,600	396
1130	1.1	30	4	10,000	400
1230	1.2	30	3	16,500	495
1330	1.3	30	1	10,000	100
1340	1.3	40	0	9,500	0
1440	1.4	40	0	10,750	0
1520	1.5	20	1	7,000	70
1530	1.5	30	0	7,500	0
1540	1.5	40	0	20,000	0
1640	1.6	40	0	19,500	0
1740	1.7	40	0	21,000	0
1820	1.8	20	0	9,000	0
1830	1.8	30	0	8,500	0
1840	1.8	40	0	22,000	0
1930	1.9	30	0	10,000	0
1940	1.9	40	0	16,500	0
>2020	>2.5	>25	0	85,000	0
Totals				335,950	4,320

## Chapter 7 - Notification, reporting and alternate monitoring plans

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### What do I have to report and when?

You will need to complete several different types of notifications and reports based on the type of process at your plant. The term, reports, is used in this section to include both notifications and reports. **Table 7.1** (on page 102) shows what reports you must submit and when they are due. **Table 7.2** (page 104) gives you details about what should be included in these reports.

### How can I change the date my reports are due?

Under the General Provisions, §63.10(a)(5), you may request a change in the date you submit your reports. You and your EPA Regional Office **or** State, local or Tribal agency for air pollution control (from now on referred to as “State”) must mutually agree to the change and the change can’t affect the **frequency** that you report. For example, semiannual reports for an existing Slabstock foam facility are required in June and December of 2004. You may request that these dates be changed to some other time frame, such as one that coincides with your title V operating permit notifications. This doesn’t change your reporting frequency since you’re still submitting your semiannual reports twice per year.

Changes to reporting dates can begin 1 year after the compliance date (that is, reports required after **10/8/02** can be changed). Reports due before 10/8/02 can’t be changed and must be reported by the date shown in **Table 7.1**. Contact your State for more information.

### Where do I send my reports?

The General Provisions §63.9(a) and §63.10(a) require you to submit reports to your State **or** your EPA Regional Office **or** both (dual reporting). Whom you send your reports to depends on whether your State has been granted the authority to implement the Flexible Polyurethane Foam Production NESHAP.

You’ll need to submit reports in **one** of the following ways:

- to your EPA Regional Office **if** your State has **not** been delegated the authority to implement and enforce the Flexible Polyurethane Foam Production NESHAP

- to your State with a copy to your EPA Regional Office, **if** your State **has** been granted delegation **and** we haven't waived the dual reporting requirement
- to your State **if** it's been granted delegation **and** we've waived the dual reporting requirement

Not all State agencies have been granted delegation. Also, as of this publication, our Region I, III, VIII and X offices haven't waived the dual reporting requirement under §63.9 and §63.10. This means if your plant is in Region I (CT, ME, MA, NH, RI, VT), Region III (DE, MD, PA, VA, WV, District of Columbia), Region VIII (CO, MT, ND, SD, UT, WY), or Region X (AK, ID, WA OR), you'll need to submit your reports to your State, local or Tribal agency **and** the EPA Regional Office. You'll find a list of our Regional Offices and their addresses in **Chapter 9**.

You should check with your EPA Regional Office or State for the latest information on submitting reports.

## Where do I submit my Alternative Programs?

There are **two** types of alternative programs under the rule.

The first is the **alternative means of emission limitation** under §63.1305. You would use this compliance method in cases where you believe you have a better approach than what is required in the rule for controlling and monitoring HAP emissions at your plant. If you use this approach, you will develop your own overall compliance strategy and submit it for approval. Since we haven't delegated the approval of this alternative to your State agency, you'll send your alternative means of emission limitation program to your **EPA Regional Office** for review and approval. You can do this by using your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time as long as the request includes all the information required under §63.1305(b). Your request must be approved as described in §63.6(g) before you can use the alternate emission limit.

The second type of alternative program is the **alternative monitoring program**. You can choose to develop an alternative monitoring program for HAP Auxiliary Blowing Agent (ABA) and polyol added to the foam production line at the mixhead [§63.1303(b)(5)], and HAP ABA added to storage vessels [§63.1303(e)(4)]. This means that you would be developing your own compliance strategy for monitoring these two sections of the rule and submit it for approval. You can send in your alternative monitoring program by using your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time as long as the request includes all the information under §63.1303(b)(5) and §63.1303(e)(4).

We haven't granted delegation of the alternative monitoring program under §63.1303(b)(5) to your State agency. This means that you'll submit your request to determine the HAP ABA and polyol added to the line at the mixhead to your **EPA Regional Office** for review and approval.

**However**, your request for determining HAP ABA added to storage vessels under §63.1303(e)(4) should be submitted as you would any other reports. Your request must be approved before you can use the alternative program. If your regulatory agency doesn't notify you of any objections to your alternative program within 45 days after they receive it, your program will be deemed approved.

If you're using a recovery device to reduce HAP ABA emissions, you're also required under §63.1303(c)(6) to develop and submit a recovery **HAP ABA monitoring and recordkeeping program**. This means that you'll send in a program (plan) that describes what type of recovery device you've installed and how you'll monitor whether the device is operating properly. You can send in your plan by using your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time as long as it includes all the information under §63.1306(c)(6). You should send in your plan as you would any other report. Your plan must be approved before you can use it. If your regulatory agency doesn't notify you of any objections within 45 days after they receive it, your plan will be deemed approved.

## Can I get example reporting forms?

We've included example forms for all reports this rule requires. You'll find the following example reports in this chapter:

	<u>Page</u>
• Initial Notification Report	108
• Application for Approval of Construction or Reconstruction	110
• Precompliance Report	115
• Notification of Compliance	121
• Semi-annual Compliance Report	124
• Change in Selected Emission Limit and Compliance Method	128
• Annual Compliance Certification	129

You may use these forms for reporting, but you **don't** have to use them. You may want to check with your State agency to make sure they don't have their own forms, **or**, if you do use these forms, check to see if they meet your State requirements first.

## Table 7.1 - Report Due Dates

If you have. . .	And need to submit a . . .	Then submit the report before . . .
<b>An existing</b> Slabstock, Molded or Rebond plant	Initial Notification Report [§63.1306(a)]	<b>2/4/99</b> (120 days after the effective date)
	Application for Approval of Construction or Reconstruction, if reconstructing <u>after 10/7/98</u> (effective date) [§63.5(d)]	As soon as practicable before reconstruction is planned to start but no sooner than <b>10/7/98</b> (effective date)
	Application for Approval of Construction or Reconstruction, if reconstruction started <u>before 10/7/98</u> (effective date), but, your initial startup was <u>after 10/7/98</u> (effective date) [§63.5(d)]	As soon as practicable before reconstruction is planned to start but no later than <b>12/6/98</b> (60 days after the effective date)
	Notification of Compliance [§63.1306(d)]	<b>4/6/02</b> (180 days after the compliance date)
	Annual Compliance Certification [§63.1306(g)]	<b>Annually - can submit with semi-annual report</b>
<b>An existing</b> Slabstock plant	Precompliance Report [§63.1306(c)]	<b>10/8/00</b> (12 months before compliance date)
(These requirements are in addition to the above)	Initial Semi-annual Compliance Report [§63.1306(e)]	<b>12/2/02</b> (include information from 4/6/02 - 10/3/02) (240 days after Notification of Compliance)
	Compliance period is for 180 days (240 days minus 60 days allowed to submit report)	
	Subsequent Semi-annual Compliance Reports [§63.1306(e)]  180 day (6 month) period starts after the initial semiannual compliance report.	<b>6/2/03</b> (include information from 10/4/02 - 4/3/03); <b>12/2/03</b> (include information from 4/4/03 - 10/3/03); <b>6/2/04</b> (include information from 10/4/03 - 4/3/04); <b>12/2/04</b> (include information from 4/4/04-10/3/04); etc. (60 days after each 180 day period)

**Table 7.1 - Report Due Dates (cont'd)**

<b>If you have. . .</b>	<b>And need to submit a . . .</b>	<b>Then submit the report before . . .</b>
	Change in Selected Emission Limit and Compliance Method [§63.1306(f)(1),(2)]	<b>180 days before the change takes effect</b> <i>(120 days after the effective date)</i>
<b>A new</b> Slabstock, Molded or Rebond plant	Initial Notification Report [§63.1306(a)]	<b>2/4/99</b> or 120 days after initial startup or use your construction permit
	Application for Approval of Construction or Reconstruction, <b>if</b> constructing <u>after 10/7/98</u> <i>(effective date)</i> [§63.5(d)]	As soon as practicable before construction is planned to start but no sooner than <b>10/7/98</b> <i>(effective date)</i>
	Application for Approval of Construction or Reconstruction, if reconstruction started <u>before 10/7/98</u> <i>(effective date)</i> , but, your initial startup was <u>after 10/7/98</u> <i>(effective date)</i> [§63.5(d)]	As soon as practicable before construction is planned to start but no later than <b>12/6/98</b> <i>(60 days after the effective date)</i>
	Notification of Compliance [§63.1306(d)]	240 days after initial startup
	Annual Compliance Certification [§63.1306(g)]	Annually - can submit with semi-annual report
<b>A new</b> Slabstock plant	Precompliance Report [§63.1306(c)]	<b>10/7/00</b> or 12 months after initial startup, whichever is later
<i>(These requirements are in addition to the above)</i>	Initial semi-annual Compliance Report [§63.1306(e)]	240 days after the notification of compliance is due
	Subsequent semi-annual Compliance Reports [§63.1306(e)]	240 days after the Initial semi-annual Compliance Report <i>and</i> every 60 days after the end of each 180 day period thereafter
	Change in Selected Emission Limit and Compliance Method [§63.1306(f)(1),(2)]	180 days before the change takes effect



## Table 7.2 Reporting Requirements

If you are submitting an. . .	then submit by . . .	and include the following information . . .	according to these sections of the rule...
<b>Initial Notification Report</b>  [slabstock, molded and rebond foam plants]	120 days after the effective date or 120 days after rule applies to your facility	Name and address of owner or operator.  Address (physical location) of the facility.  Compliance date.  Brief description of nature, size, design, and method of operation.  Identify each point of emission for each hazardous air pollutant.  Statement of whether you're a major or area source.	§63.1306(a); §63.9(b)
<b>Application for Approval of Construction or Reconstruction</b>  [slabstock, molded and rebond foam plants]	Before construction or reconstruction	Applicant's name and address.  Notification of intent to construct or reconstruct.  Address (physical location) of the facility.  Identify the standard you're subject to.  Date that you expect to start construction or reconstruction.  Date that you expect to finish construction or reconstruction.  Date you expect to start operating (initial startup).  Type and amount of HAP you're emitting or expect to emit.  For construction, description of proposed nature, size, design, method of operation and emission controls and other information under §63.5(d)(2).  For reconstruction, brief description of the facility, parts to be replaced and emission controls and other information under §63.5(d)(3).	§63.1306(b); §63.5(d)

**Table 7.2 Reporting Requirements (cont'd)**

<b>If you are submitting an. . .</b>	<b>then submit by . . .</b>	<b>and include the following information . . .</b>	<b>according to these sections of the rule...</b>
<b>Precompliance Report</b>  [slabstock foam plants]	12 months before compliance date	<p>Whether you'll comply using the emission point specific limit or sourcewide emission limit.</p> <p>Whether you'll comply on a rolling-annual or monthly basis.</p> <p>Description of how you'll monitor HAP ABA or polyol added at the mixhead.</p> <p>Notice of your intent to use a recovery device.</p> <p>A copy of your program for continuous monitoring and recordkeeping on recovered HAP ABA, if complying using a recovery device.</p> <p>If complying with the sourcewide emission limit:</p> <ul style="list-style-type: none"> <li>• description of how you'll determine the amount of HAP ABA in a storage vessel</li> <li>• description of how you'll monitor the amount of HAP ABA added to a storage vessel during a delivery</li> </ul> <p>Information on your alternative monitoring program found in §63.1303(b)(5)(i)-(iv), if applicable.</p>	§63.1306(c)
<b>Notification of Compliance Status</b>  [slabstock, molded and rebond foam plants]	Within 180 days after compliance date	<p>List of your diisocyanate storage vessels, and controls used for each.</p> <p>Type of control used for each transfer pump in diisocyanate service.</p> <p>If complying with the emission point specific limits:</p> <ul style="list-style-type: none"> <li>• List of HAP ABA storage vessels, along with control used for each</li> <li>• List of pumps, valves, connectors, pressure-relief devices, and open-ended valves or lines in HAP ABA service</li> <li>• List of any modifications to equipment in HAP ABA service you've made to comply with §63.1296</li> </ul>	§63.1306(d)

**Table 7.2 Reporting Requirement (cont'd)**

<b>If you are submitting an. . .</b>	<b>then submit by . . .</b>	<b>and include the following information . . .</b>	<b>according to these sections of the rule...</b>
<b>Semiannual Compliance Report</b>  [slabstock foam plants]	Semiannually no later than 60 days after the end of the 180-day period.	<p>If you're using <b>rolling-annual</b> compliance, report the allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each 12-month period ending on each of the six months in the reporting period (<b>not</b> required for initial semi-annual compliance report).</p> <p>If you're using <b>monthly</b> compliance, report allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each of the six months in the reporting period.</p> <p>If you're using a <u>carbon-adsorption system</u>, report unloading events that occurred after you detected a breakthrough and before you replaced the carbon.</p> <p>Any equipment leaks you didn't repair.</p> <p>Any leaks in vapor- return lines you didn't repair.</p>	§63.1306(e)
<b>Change in Selected Emission Limit</b>  [slabstock foam plants]	180 days before a change takes effect	Notify your regulatory agency that you're switching from complying with the emission point specific limit to the sourcewide emission limit (or vice versa).	§63.1306(f)(1)
<b>Change in Selected Compliance Method</b>  [slabstock foam plants]	180 days before a change takes effect	Notify your regulatory agency that you're switching from monthly to rolling-annual compliance (or vice versa).	§63.1306(f)(2)

**Table 7.2 Reporting Requirement (cont'd)**

<b>If you are submitting an. . .</b>	<b>then submit by . . .</b>	<b>and include the following information . . .</b>	<b>according to these sections of the rule...</b>
<b>Annual Compliance Certification</b>	Annually	Statement that your facility complies with each applicable requirement of the rule.	§63.1306(g)
[slabstock, molded or rebond foam plants]			

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## Example Initial Notification Report

**This is a sample notification form that you can use to comply with 40 CFR 63.1306(a).**

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. Initial Notification is being made in accordance with §63.1306(a) and §63.9(b).

1. Print or type the following information for each plant in which you produce flexible polyurethane foam (***slabstock and molded***) or ***rebond foam*** [§63.9(b)(2)(i)- (ii)] :

Owner/Operator/Title \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Plant Name \_\_\_\_\_  
Plant Contact/Title \_\_\_\_\_  
Plant Contact Phone Number (*optional*) \_\_\_\_\_  
Plant Address (if different than owner/operator's) \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

2. Show your anticipated compliance date [§63.9(b)(2)(iii)]:

☐ \_\_\_\_\_ (Insert compliance date)  
☐ Upon startup Anticipated startup date \_\_\_\_\_

3. Check which affected source(s) (as defined by 40 CFR 63.1290) exist at your plant (*optional*):

☐ Slabstock flexible polyurethane foam production  
☐ Molded flexible polyurethane foam production  
☐ Rebond foam production

4. Briefly describe your sources nature, size, design, and method of operation, including its designed operating capacity. [§63.9(b)(2)(iv)]:

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## Example Initial Notification Report (Cont'd)

5. Identify each point of emission for each Hazardous Air Pollutant (HAP). If you can't do this definitively yet, do a preliminary identification. If you need more lines, copy this page [§63.9(b)(2)(iv)].

Please indicate if the information below is: ☐ Definitive ☐ Preliminary

Source ID	Source Location	Source Description	Operation Performed

6. My plant is a major source of Hazardous Air Pollutants (HAPs) ☐ Yes ☐ No

NOTE: Only major sources of HAPs are regulated under this rule [§63.9(b)(2)(v)]. If you are not a major source, you are not subject to the rule and don't need to submit this initial notification. You should, however, keep documentation on how you determined you were an area source and maintain those records on file at your plant.

*A major source is a facility that may emit more than 10 tons per year of any one hazardous air pollutant (HAP) or 25 tons per year of multiple HAPs. All other sources are area sources. Whether a source is a major or area source depends on all HAP emission-points inside the plant's fence line, not just the flexible polyurethane foam or rebound foam production facilities.*

**End of Initial Notification Form**

## Example

### Application for Approval of Construction or Reconstruction

This is a sample notification form that you can use to comply with 40 CFR 63.5(d).

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. Notification is being made in accordance with §63.5(d) [§64.5(d)(1)(ii)(D)]

Description: Your Application for Approval of Construction or Reconstruction falls under the General Provisions, §63.5(d). This section requires anyone constructing or reconstructing a major source after the effective date of a standard (in this case **10/7/98**) to obtain written approval to construct or reconstruct the source.

By this we mean, approval is required if you do **any** one of the following:

- construct a new major affected source
- reconstruct a major affected source
- reconstruct a source that becomes a major affected source

This means that if you construct a new source **or** reconstruct an existing source that is subject to the rule **and** that source a major source of HAPs, you will need to submit an Application for Approval of Construction or Reconstruction. You can find a definition of construction and reconstruction in the General Provisions, §63.2.

**Use a separate form for each construction or reconstruction you are planning.**

1. Print or type the following information for each affected source you're constructing or reconstructing [§64.5(d)(1)(ii)(A), (C)]:

Owner/Operator/Title \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

Plant Name (*optional*) \_\_\_\_\_

Plant Contact/Title (*optional*) \_\_\_\_\_

Plant Contact Phone Number (*optional*) \_\_\_\_\_

Plant Address (if different than owner/operator's) \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

## Example

### Application for Approval of Construction or Reconstruction (cont'd)

2. I intend to *(check only one, use a separate sheet of paper for each separate construction or reconstruction)* [§64.5(d)(1)(ii)(B)]:

- ☐ construct a new major affected source
- ☐ reconstruct a major affected source
- ☐ reconstruct a source that has become a major affected source

3. Describe the type of source you are constructing or reconstructing (optional):

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4. I expect to begin construction or reconstruction on \_\_\_\_\_ (mm/dd/yy) [§64.5(d)(1)(ii)(E)]  
I expect to finish construction or reconstruction on \_\_\_\_\_ (mm/dd/yy) [§64.5(d)(1)(ii)(F)]  
I expect to startup on \_\_\_\_\_ (mm/dd/yy) [§64.5(d)(1)(ii)(G)]

5. Complete this section **only** if you plan on **constructing** a new major affected source. All others go to 6 [§64.5(d)(2)].

- (a) Describe the size and design capacity of the source you're constructing and at what capacity you intend to operate:

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- (b) Identify the type and quantity of Hazardous Air Pollutants (HAPs) emitting after the construction, the pollution control equipment you intend on using, if any, and its control efficiency. If you can't do this definitively, do a preliminary identification.

Please indicate if the information below is:   ☐ Definitive        ☐ Preliminary



## Example

### Application for Approval of Construction or Reconstruction (cont'd)

*Note: If you do a preliminary identification, you must submit actual data as soon as practical after it becomes available, but, no later than your notification of compliance status.*

Source ID: \_\_\_\_\_

Emission Point ID (if applicable)	HAP(s) emitted	Emissions (____units <sup>1</sup> )	Air Pollution Control Device (if applicable)	Control Efficiency of Control Device (% efficiency)

<sup>1</sup> use the same units, percent reductions or averaging times that are required in the subpart

- (c) Include with your submittal any technical information such as calculations you made to determine your estimated emissions.
6. Complete this section **only** if you plan on **reconstructing** an existing major affected source or reconstructing a source that becomes a major affected source after reconstruction. All others go to 7 [§64.5(d)(3)].

(a) Describe the type of components that you're replacing:

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(b) Identify the type and quantity of HAPs emitting after the reconstruction, the pollution control equipment you currently use and intend on using, if any, and its control efficiency. If you can't do this definitively, do a preliminary identification.

Please indicate if the information below is:   ☐ Definitive      ☐ Preliminary

## Example

### Application for Approval of Construction or Reconstruction (cont'd)

*Note: If you do a preliminary identification, you must submit actual data as soon as practical after it becomes available, but, no later than your notification of compliance status.*

Source ID: \_\_\_\_\_

Emission Point ID (if applicable)	HAP(s) emitted	Emissions (____units <sup>1</sup> )	Air Pollution Control Device Currently Used (if applicable)	Planned Air Pollution Control Device (if applicable)	Control Efficiency of Control Device (% efficiency)

<sup>1</sup> use the same units, percent reductions or averaging times that are required in the subpart

- (c) Include with your submittal any technical information such as calculations you made to determine your estimated emissions.
- (d) A discussion of any economic or technical limits you'll have in complying with this subpart after reconstruction. If you **don't** plan on having any economic or technical limits after reconstruction, go to 7.
- (i) Discuss what your economic or technical limits will be, how they effect your compliance under this subpart, what subparts will be effected, and what alternate methods of compliance you plan on using:

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- (ii) My estimated fixed capital cost to reconstruct the affected source is : \$ \_\_\_\_\_.00

## Example

### Application for Approval of Construction or Reconstruction (cont'd)

(iii) The estimated life of my affected source after reconstruction is: \_\_\_\_\_ years

(iv) If I were to forgo reconstruction and construct a entirely new affected source, comparable with the one I am reconstructing, my fixed capital costs would be: \$ \_\_\_\_\_.00

7. End of form.

**End of Application for Approval of Construction or Reconstruction**

## Example Precompliance Report

This is a sample notification form you can use to comply with 40 CFR 63.1306(c)

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. This Precompliance Report is being made for my **slabstock foam** facility in accordance with §63.1306(c).

1. Print or type the following information for each plant in which you produce **slabstock foam**:

Owner/Operator/Title \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Plant Name \_\_\_\_\_  
Plant Contact/Title \_\_\_\_\_  
Plant Contact Phone Number (*optional*) \_\_\_\_\_  
Plant Address (if different than owner/operator's) \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

2. Check which compliance option you're choosing for your slabstock facility (*check all that apply*) [§63.1306(c)(2)]:

☐ **Emission point limit** described in §63.1293(a) [§63.1306(c)(1)]

*check which option you're choosing* [§63.1306(c)(2)]

☐ I'll comply on a *rolling-annual* basis under §63.1297(b)

☐ I'll comply on a *monthly* basis under §63.1297(c)

☐ **Sourcewide emission limit** described in §63.1293(b) [§63.1306(c)(1)]

*check which option you're choosing* [§63.1306(c)(3)]

☐ I'll comply on a *rolling-annual* basis under §63.1299(a)

☐ I'll comply on a *monthly* basis under §63.1299(b)

## Example Precompliance Report (Cont'd)

3. Describe how you'll monitor HAP ABA or polyol added at the mixhead. If you're developing an alternate monitoring program, go to 4 [§63.1306(c)(4)]:

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4. Fill out only if you plan to use an **alternate monitoring program** for HAP ABA or polyol added at the mixhead. Otherwise, go to 5 [§63.1306(c)(4)]:

If you intend to use an alternate monitoring program for HAP ABA or polyol added at the mixhead under §63.1303(b)(5), you develop and submit an alternative monitoring program for approval.

You can use this precompliance report for submitting your monitoring program if you're an existing source. If you're a new source, you can use your Application for Approval of Construction or Reconstruction. You may also submit a monitoring program after the compliance date. Alternate monitoring programs must be approved before you can use the alternate.

- (a) I have attached an alternate monitoring program:

- ☐ Yes (don't fill out the rest of 4, go to 5)  
☐ No (fill out the information below)

- (b) Describe the parameter you'll monitor to continuously measure the amount of HAP ABA or polyol added at the mixhead while you're pouring foam [§63.1303(b)(5)(i)]:

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- (c) Describe how you'll record results, and how you'll convert them into the amount of HAP ABA or polyol delivered to the mixhead [§63.13031(b)(5)(ii)]:

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## Example Precompliance Report (Cont'd)

- (d) Provide data to show the monitoring device is accurate to within  $\pm 2.0$  percent [§63.1303(b)(5)(iii)]:

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- (e) Describe what you'll do to maintain accurate results from parameter monitoring. Make sure your procedures at least include calibration of all monitoring devices [§63.1303(b)(5)(iv)]:

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5. Fill out this section only if you plan to use a **recovery device** to comply with §63.1297 or 63.1299. Otherwise, go to 6 [§§63.1306(c)(5), (c)(6)]:

If you intend to use a recovery device to reduce HAP ABA emissions, under §63.1303(c)(6) you must develop and submit a recovery HAP ABA monitoring and recordkeeping program for approval.

You can use this precompliance report for submitting your monitoring program if you're an existing source. If you're a new source, you can use your Application for Approval of Construction or Reconstruction. You may also submit a monitoring program after the compliance date. Alternate monitoring programs must be approved before you can use the alternate.

- (a) I have attached a program to monitor and keep records on recovered HAP ABA:

- ☐ Yes (don't fill out the rest of 5, go to 6)  
☐ No (fill out the information below)

- (b) Describe the solvent-recovery device you've installed, calibrated, maintained, and operated according to the manufacturer's specification and that shows the cumulative amount of HAP ABA recovered by the device during each month. Make sure the manufacturer certifies this device to be accurate to within  $\pm 2.0$  percent [§63.1303(c)(1)]:

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## Example Precompliance Report (Cont'd)

- (c) Describe where the monitoring will occur. Make sure the location allows you to measure the HAP ABA after you've fully recovered it [§63.1303(c)(2)]:

*fully recovered means after separation from water introduced into the HAP ABA during regeneration*

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- (d) Describe the parameter you'll monitor and the times you'll monitor it [§63.1303(c)(3)]:

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- (e) Provide data to show that the monitoring device is accurate to within  $\pm 2.0$  percent [§63.1303(c)(4)]:

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- (f) Describe how you'll maintain accurate results from parameter monitoring. Make sure your procedures at least include periodic calibration of all monitoring devices [§63.1303(c)(5)]:

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## Example Precompliance Report (Cont'd)

6. For sources complying with the **sourcewide emission limit**, describe how you'll determine the amount of HAP ABA in a storage vessel [§63.1306(c)(7)]:

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7. For sources complying with the **sourcewide emission limit**, describe how you'll monitor the amount of HAP ABA added to a storage vessel during a delivery. If you're developing an alternate monitoring program, go to 8 [§63.1306(c)(8)]:

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8. Fill out only if you plan to use an **alternative monitoring program** for HAP ABA added to a storage vessel during delivery. Otherwise, go to 9 [§63.1306(c)(8)]:

If you intend to use an alternate monitoring program for HAP ABA added to a storage vessel during loading, under §63.1303(e)(4) you must develop and submit an alternative monitoring program for approval.

You can use this precompliance report for submitting your monitoring program if you're an existing source. If you're a new source, you can use your Application for Approval of Construction or Reconstruction. You may also submit a monitoring program after the compliance date. Alternate monitoring programs must be approved before you can use the alternate.

- (a) I have attached an alternative monitoring program for HAP ABA added to a storage vessel during loading:

- ☐ Yes (don't fill out the rest of 8, go to 9)  
☐ No (fill out the information below)

- (b) Describe the parameter you'll monitor to determine the amount of HAP ABA added to the storage vessel during a delivery [§63.1303(e)(4)(i)]:

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## Example Precompliance Report (Cont'd)

- (c) Describe how you'll record the results and how you'll convert them into the amount of HAP ABA added to the storage vessel during a delivery [§63.1303(e)(4)(ii)]:

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- (d) Provide data to show the monitoring device is accurate to within  $\pm 2.0$  percent [§63.1303(e)(4)(iii)]:

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- (e) Describe how you'll maintain accurate results from monitoring. Make sure your procedures at least include periodic calibration of all monitoring devices [§63.1303(e)(4)(iv)]:

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**End of Precompliance Report**

## Example Notification of Compliance Status

**This is a sample notification form which you can use to comply with 40 CFR 63.1306(d)**

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. Notification of compliance status is being made in accordance with §63.1306(d).

1. Print or type the following information for each **slabstock, molded, or rebond** process (optional) :

Owner/Operator/Title \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

Plant Name \_\_\_\_\_

Plant Contact/Title \_\_\_\_\_

Plant Contact Phone Number (*optional*) \_\_\_\_\_

Plant Address (if different than owner/operator's) \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

2. Fill out only if you produce **Slabstock foam**. Otherwise, go to 3 [§63.1306(d)]:

- (a) List your diisocyanate storage vessels and the type of control you use [§63.1306(d)(1)]:

<i>Diisocyanate Storage Vessel</i>	<i>Type of control</i>

## Example Notification of Compliance Status (cont'd)

- (b) If transfer pumps are in diisocyanate service, record the type of control you'll use for each transfer pump [§63.1306(d)(2)]:

<i>Transfer pump in diisocyanate service</i>	<i>Type of control</i>

- (c) My slabstock processes are complying with the **emission point specific limit** under §§63.1294 through 63.1298:

- ☐ Yes  
☐ No

*If yes, provide the following information; otherwise, go to 3:*

- (c1) List your HAP ABA storage vessels, and the type of control you use [§63.1306(d)(3)(i)]:

<i>HAP ABA Storage Vessels</i>	<i>Type of control</i>

## Example Notification of Compliance Status (cont'd)

- (c2) List your pumps, valves, connectors, pressure-relief devices, and open-ended valves or lines in HAP ABA service [§63.1306(d)(3)(ii)]:

<i>Equipment List</i>	<i>Type</i>
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector

- (c3) List any modifications you made to equipment in HAP ABA service to comply under §63.1296 [§63.1306(d)(3)(iii)]:

<i>Equipment Description</i>	<i>Modification Made</i>

3. Fill out only if you produce **Molded foam**. Otherwise, go to 4 [§63.1306(d)(4)]:

*check all that apply*

- ☐ My affected source for molded foam complies with §63.1300
- ☐ My molded foam processes at the affected source comply with §63.1300

4. Fill out only if you produce **Rebond foam**. Otherwise, go to 5 [§63.1306(d)(5)]:

*check all that apply*

- ☐ My affected source for rebond foam complies with §63.1301
- ☐ My rebond foam processes at the affected source comply with §63.1301

**End of Notification of Compliance Status**

## Example Semi-Annual Compliance Report

This is a sample notification form that you can use to comply with 40 CFR 63.1306(e).

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. This semiannual report is being made for my **Slabstock foam** facility in accordance with §63.1306(3). and covers a 6 month period from \_\_\_\_\_ to \_\_\_\_\_.

1. Print or type the following information for each slabstock foam process (optional):

Owner/Operator/Title \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Plant Name \_\_\_\_\_  
Plant Contact/Title \_\_\_\_\_  
Plant Contact Phone Number (optional) \_\_\_\_\_  
Plant Address (if different than owner/operator's) \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

2. If your slabstock foam source is following **rolling-annual compliance** under §63.1297 or §63.1299, record the following. Otherwise, go to 3. If this is your initial semi-annual compliance report, go to 3; the information in 2 isn't required.

List the allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each 12-month period ending on each of the six months in the reporting period [§63.1306(e)(1)].

*Example: if you're submitting a July 2000 semiannual report, you would send emission information from January-June 2000 and July-December 1999.*

## Example Semi-Annual Compliance Report (cont'd)

Type of Affected source: \_\_\_\_\_

Type of emission limit used:

☐ actual HAP ABA emission    **or**    ☐ sourcewide HAP emissions

<b><i>Reporting Period</i></b>	<b><i>Reporting Year</i></b>	<b><i>allowable emissions ( _____ units)</i></b>	<b><i>actual emissions ( _____ units)</i></b>
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

3. If your slabstock source is following ***monthly compliance*** under §63.1297 or §63.1299, record the following. Otherwise, go to 4.

List the allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each of the 6 months in the reporting period [§63.1306(e)(2)].

## Example Semi-Annual Compliance Report (cont'd)

Affected source:

Type of emission limit used:

☐ actual HAP ABA emission    **or**    ☐ sourcewide HAP emissions

<i><b>Reporting Period</b></i>	<i><b>Reporting Year</b></i>	<i><b>allowable emissions (_____ units)</b></i>	<i><b>actual emissions (_____ units)</b></i>
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

4. If your slabstock source is using a **carbon-adsorption system** to comply with the **storage-vessel** provisions in §63.1294(a) or §63.1295, record the following. Otherwise, go to 5.

Identify any unloading event that occurred after you've detected breakthrough and before you replaced the carbon [§63.1306(e)(3)]:

<b>Unloading Event Date</b>	<b>Breakthrough Comments</b>

## Example Semi-Annual Compliance Report (cont'd)

5. If your slabstock source had **equipment leaks** that you didn't repair according to §63.1294(b)(2)(iii); §63.1294(c); §63.1296(a)(2)(iii); §63.1296(b)(2); §63.1296(b)(3)(iv); §63.1296(b)(4)(v); §63.1296(c)(2); §63.1296(c)(4)(ii); or §63.1296(d)(2), record the following. Otherwise, go to 6.

Identify any equipment leaks you didn't repair [§63.1306(e)(4)]

<i>Type of Equipment Leak</i>	<i>Date Leak Detected</i>	<i>Applicable Section of Rule</i> <i>(as indicated above)</i>	<i>Comments</i>

6. If your slabstock source had leaks in the **vapor-return line** leaks that you didn't repair according to §63.1294(a)(1)(ii) or §63.1295(b)(2), record the following.

Identify any leaks in the vapor-return line that you didn't repair [§63.1306(e)(5)]

<i>Type of Vapor-Return Line</i>	<i>Date Leak Detected</i>	<i>Applicable Section of Rule</i> <i>(as indicated above)</i>	<i>Comments</i>

**End of Semiannual Report**



## Example

### Change in Selected Emission Limit and Compliance Method

Make notification to change the selected emission limit and compliance method for your **slabstock foam** process by requesting the change in writing (using a letter, memorandum, or a similar document). Make notification at least 180 days before the change and include the following based on the type of notification you're making [63.1306(f)(1)]:

#### I. If your complying with §63.1293

My \_\_\_\_\_ [identify affected source] is complying with §63.1293. We currently comply using the **emission point specific limit** but will be switching to the **sourcewide emission limit** on \_\_\_\_\_ [identify date].

or

My \_\_\_\_\_ [identify affected source] is complying with §63.1293. We currently comply using the **sourcewide emission limit** but will be switching to the **emission point specific limit** on \_\_\_\_\_ [identify date].

#### II. If your complying with §63.1297 or §63.1299

My \_\_\_\_\_ [identify affected source] is complying with §\_\_\_\_\_ [identify §63.1297 or §63.1299] . We're currently using the **rolling-annual** compliance period but will be switching to the **rolling-monthly** on \_\_\_\_\_ [identify date].

or

My \_\_\_\_\_ [identify affected source] is complying with §\_\_\_\_\_ [identify §63.1297 or §63.1299] . We're currently using the **rolling-monthly** compliance period but will be switching to the **rolling-annually** on \_\_\_\_\_ [identify date].

**End of Change in Selected Emission Limitation and Compliance Method**

## Example Annual Compliance Certification

**This is a sample notification form that you can use to comply with 40 CFR 63.1306(g).**

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. I'm certifying compliance annually under §63.1306(g) and §63.1306.

You may use compliance certifications required in your State or local operating permit program to satisfy this reporting requirement as long as the compliance certification is consistent with §63.1308 [§63.1306(g)(2)].

1. Print or type the following information for each **slabstock, molded or rebond** process:

Owner/Operator/Title \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Plant Name \_\_\_\_\_  
Plant Contact/Title \_\_\_\_\_  
Plant Contact Phone Number (*optional*) \_\_\_\_\_  
Plant Address (if different than owner/operator's) \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code: \_\_\_\_\_

I certify that my   slabstock foam ☐   molded foam ☐   Rebond foam ☐   is in compliance with each applicable requirement in §63.1308, Compliance Demonstration, of the Flexible Polyurethane Foam NESHAP (40 CFR 63, Subpart III). For operations that are not in compliance, provide a description of your noncompliant operations.

Signature of Responsible Official: \_\_\_\_\_ [§63.1306(g)(3)]

Title of Responsible Official: \_\_\_\_\_

## Chapter 8 - Other requirements and information

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### Who administers this regulation?

Your State or local agency for air pollution control, **or** your EPA Regional Office, will regulate you. If your plant is in Indian Country, and your eligible Tribe **or** your EPA Regional Office will regulate you. You may be regulated by one or more agencies depending on whether they've been granted delegation of this rule.

**Definition.** An *eligible Tribe* means “a Tribe that has been determined by the EPA to meet criteria for being treated in the same manner as a State, pursuant to the regulations implementing section 301(d)(2) of the Act.”

Not all States have been granted delegation, or, if they have been granted delegation, they may not have been delegated all portions of the rule. Our EPA Regional Offices may also have retained certain rights even after delegation (for example, you may continue to have dual reporting requirements as explained in **Chapter 7**). You should check with your EPA Regional Office or State for the latest information.

### Do I need a title V permit?

You'll need a title V permit if you're subject to the Flexible Polyurethane Foam Production NESHAP since, under title V, you must get a permit if your facility is a *major source*. The Flexible Polyurethane Foam Production NESHAP applies to major sources.

To determine if your facility is a major source, you'll need to calculate your HAP emissions from your entire facility, not just your foam operations. If you don't have federally enforceable limits in a State permit, you must calculate your emissions by determining your potential emissions. If you need help determining if your facility is a major source or what your potential emissions are, see the definitions in the Operating Permits Rule §70.2, **or** visit our title V policy and guidance page at [www.epa.gov/ttn/oarpg/t5main.html](http://www.epa.gov/ttn/oarpg/t5main.html).

## How do I change my permit to include this rule?

If you've already been issued a final title V permit and you have three or more years left on your permit, your permitting authority will reopen your permit within 18 months of the publication date of the final rule or final amendments. If you have less than three years left on your permit, update your permit during your renewal period. If your permit hasn't been issued in final form, update your application or draft permit.

To summarize, your options are as follows:

<b>If a new rule is effective<sup>1,2</sup> and you have . . .</b>	<b>Then . . .</b>
not been issued a final title V permit	update your permit application or draft permit
less than three years left on your permit	update your title V permit during renewal
three or more years left on your permit	your permitting authority will reopen your permit within 18 months after the publication date of the final rule or final amendments

<sup>1</sup> The rule's effective date is the date the final rule is published in the *Federal Register* (which is **10/7/98** for this rule).

<sup>2</sup> This also applies if existing rules are modified and final amendments are published in the *Federal Register*.

Title V permitting rules may change after the publication of this document. Keep abreast of any changes by checking the *Federal Register* **or** visit our title V websites at [www.epa.gov/ttn/oarpg/t5main.html](http://www.epa.gov/ttn/oarpg/t5main.html) and [www.epa.gov/oar/oaqps/permits/](http://www.epa.gov/oar/oaqps/permits/).

## What portions of the General Provisions apply?

The General Provisions were published in the *Federal Register* on March 16, 1994 (Volume 59, page 12408) and apply to all NESHAPs, including the flexible polyurethane foam rule.

This means that when you became subject to this rule, you also became subject to the General Provisions. Some sections in this rule over-ride the General Provisions. You'll find that Table 2 of the final rule shows you which sections of the General Provisions apply to this rule and which don't. General Provision requirements, except for notification and reporting are not addressed in this document.

### Whom can I ask for help?

You can go to a lot of places for help, including all of the following:

- your State, local or Tribal agency for air pollution control
- your State's Small Business Assistance Program (SBAP)
- local, regional, or national trade associations
- your EPA Regional Office

**State and local contacts** can change frequently. To get the most current contact information, go to the STAPPA/ALAPCO website ([www.4cleanair.org](http://www.4cleanair.org)) and then the membership directory. The directory will give you the latest contact points for major air programs (that is, emission standards for toxic air pollutants, ozone, etc.) at the State and local level.

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*If you have questions about this rule, you should contact your State, local or Tribal agency before calling the EPA. Their rules may be more stringent than Federal requirements.*

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**Trade Associations** representing the flexible polyurethane foam industry are listed below. Trade associations sometimes have rule information for their members.

Trade Association	Telephone #	Address
Carpet Cushion Council	(203) 637-1312	26 Arcadia Rd., Suite 8 Old Greenwich, CT 06870
Society of the Plastics Industry, Inc. Polyurethane Division	(202) 974-5362	1801 "K" Street 600K Washington, DC 20006
Polyurethane Foam Assoc.	(973) 633-9044	P.O. Box 1459 Wayne, NJ 07474

Many States have a ***Small Business Assistance Program***. If you're a small business and don't know who your SBAP is, you can call EPA's Control Technology Center Hotline at (919) 541-0800 or visit EPA's SBAP at [www.epa.gov/oar/oaqps/sbap](http://www.epa.gov/oar/oaqps/sbap) for help.

Contact numbers for ***EPA's Regional Air Division Offices*** may also change frequently. To obtain the most up-to-date information, you may want to visit your Regional Office's website. **Table 9.1** (on page 134) lists each of our Regional Offices, the Air Toxics Division Phone and Address, and the Regions internet home page. Make all written inquiries to the attention of "NESHAP (insert rule name) Contact."

## Can I get more information on the Web?

You can get a wealth of information on the World Wide Web (WWW). Some of the more popular ways to get information on this rule include:

- **EPA's Unified Air Toxics Website** ([www.epa.gov/ttn/uatw](http://www.epa.gov/ttn/uatw))  
You can download copies of preambles, regulations, background information documents, policy memos, and other guidance materials here. All rule pages can be found under the Rules and Implementation page. Flexible polyurethane foam can be found under [www.epa.gov/ttn/uatw/foam/foampg.html](http://www.epa.gov/ttn/uatw/foam/foampg.html).
- **EPA's Applicability Determination Index (ADI)** (<http://es.epa.gov/oeca/eptdd/adi.html>)  
EPA's Office of Enforcement and Compliance Assurance (OECA) posts memos dealing with applicability and compliance at this site.
- **OECA Compliance Assistance Centers** (<http://www.epa.gov/epahome/business.htm>)  
You can find information on compliance with federal regulations at this site. There are centers for printing, automotive services and repair, agriculture, and metal finishing industries. We plan to add centers for the chemical industry, printed wiring board manufacture, transportation, and local governments.
- **STAPPA/ALAPCO home page** (<http://www.4cleanair.org>)  
STAPPA/ALAPCO is the State and Territorial Air Pollution Program Administrators (STAPPA) and Local Air pollution Control Officials (ALAPCO) organization. STAPPA/ALAPCO has members representing each State and local agency for air pollution control.

You can get air pollution information at this site, including a document entitled "*Communicating Air Quality: A Compendium of Resources*." It lists educational materials on air pollution that State and local agencies have created.

**Table 9.1**  
**EPA Regional Air Division Offices**

<b>EPA Region</b>	<b>States Covered</b>	<b>Division Phone and Address</b>	<b>Phone Home Page</b>
Region I	CT, ME, MA, NH, RI & VT	Office of Environmental Stewardship (OES) 1 Congress Street, Suite 1100 Boston, MA 02114-2023	(617) 918-1510 <a href="http://www.epa.gov/region1">www.epa.gov/region1</a>
Region II	NJ, NY, Puerto Rico & Virgin Islands	Division of Environmental Planning and Protection 290 Broadway, 21st Floor New York, NY 10007-1866	(212) 637-3735 <a href="http://www.epa.gov/region2">www.epa.gov/region2</a>
Region III	DE, MD, PA, VA, WV & DC	Air Protection Division, 3AP12 1650 Arch Street Philadelphia, PA 19103-2029	(215) 814-2056 <a href="http://www.epa.gov/region3">www.epa.gov/region3</a>
Region IV	AL, FL, GA, KY, MS, NC, SC & TN	Air, Pesticides and Toxics Management Division 345 Courtland Street, NE Atlanta, GA 30365	(404) 562-9077 <a href="http://www.epa.gov/region4">www.epa.gov/region4</a>
Region V	IL, IN, MI, WI, MN & OH	Air and Radiation Division 77 West Jackson Blvd. Chicago, IL 60604-3507	(312) 353-2212 <a href="http://www.epa.gov/region5">www.epa.gov/region5</a>
Region VI	AR, LA, NM, OK & TX	Multimedia Planning and Permitting Division 1445 Ross Avenue Dallas, TX 75202-2733	(214) 665-7200 <a href="http://www.epa.gov/region6">www.epa.gov/region6</a>
Region VII	IA, KS, MO & NE	Air, RCRA and Toxics Division 726 Minnesota Avenue Kansas City, KS 66101	(913) 551-7097 <a href="http://www.epa.gov/region7">www.epa.gov/region7</a>
Region VIII	CO, MT, ND, SD, UT & WY	Office of Enforcement, Compliance and Environmental Justice (ECEJ) 999 18th Street, 1 Denver Place, Suite 500 Denver, CO 80202-2405	(303) 312-7028 <a href="http://www.epa.gov/region8">www.epa.gov/region8</a>
Region IX	AZ, CA, HI, NV, American Samoa, & Guam	Air Division 75 Hawthorne Street San Francisco, CA 94105	(415) 744-1219 <a href="http://www.epa.gov/region9">www.epa.gov/region9</a>
Region X	AK, ID, WA & OR	Office of Air Quality 1200 Sixth Avenue Seattle, WA 98101	(206) 553-1505 <a href="http://www.epa.gov/region10">www.epa.gov/region10</a>

## **Is there a list of commonly asked questions?**

For a list of questions and answers about the final rule, you'll find EPA's "*Hazardous Air Pollutant Emissions from the Production of Flexible Polyurethane Foam -- Basis and Purpose Document for Final Standards, Summary of Public Comments and Responses, July, 1998* (EPA-453/R-97-008b) useful. You can download the document by going to our UATW Flexible Polyurethane Foam page at [www.epa.gov/ttn/uatw/foam/foampg.html](http://www.epa.gov/ttn/uatw/foam/foampg.html).



### How many plants may need to meet emission limits?

According to information we collected in 1993, we estimated that approximately 77 *slabstock*, 21 *rebond*, and 98 *molded foam* production plants might be affected by this rule.

You can find a list of slabstock plants that may be affected by the rule in **Table 10.1** (on page 138). Unfortunately, we don't have a list of molded and rebond foam plants. When looking at Table 10.1, realize that our information is from 1993 and some of the plants may have closed or been redesignated as area sources. We've included the list as a reference for you, **not** as an official or complete list of regulated plants. You can see how many slabstock plants are in your state by going to **Figure 10.1** (page 141).

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EPA's "*Enabling Document: Source Identification Procedures for Sources Subject to Regulations Under Section 112(d) of the Clean Air Act as Amended in 1990*", September 20, 1996 (otherwise known as the "**Cookbook**"), can help you identify the steps you can take to locate more sources.

You can download the cookbook by going to [www.epa.gov/ttn/uatw/eparules.html](http://www.epa.gov/ttn/uatw/eparules.html), scroll down until you see "MACT Implementation Strategy". The cookbook is in Appendix G of this document.

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### Are plants in Indian country regulated by the State?

Generally, State rules aren't enforceable in Indian country. When we delegate authority to States under section 112(d), the authority to regulate doesn't extend to Indian country unless the delegation agreement says so.

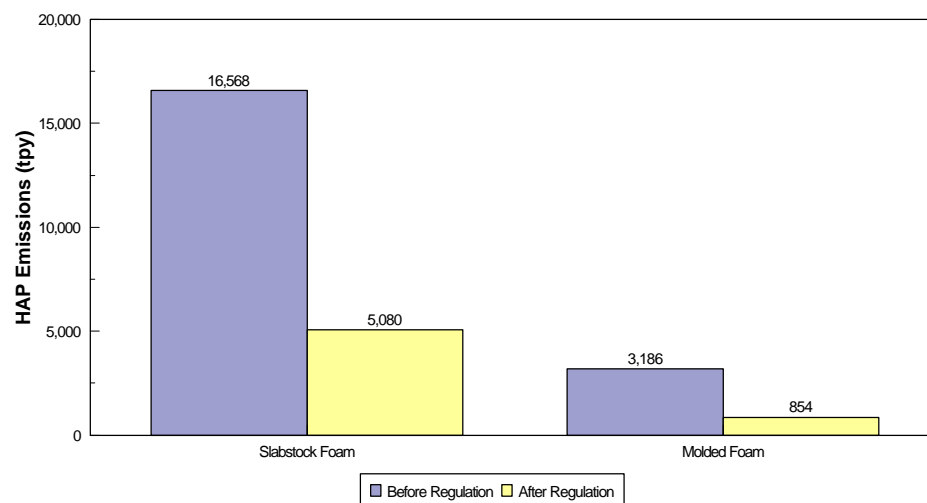
We encourage tribes to develop the capacity to administer section 112(d) programs and to request delegation. If we don't delegate the authority to carry out section 112(d) rules to an eligible Tribe, the EPA Regional Office will be the regulatory authority.

## How much HAP emissions will the rule reduce?

We estimate that full implementation of the rule will reduce HAP emissions by about 13,800 tons annually. Breaking this down, we think that 11,500 tons annually (69%) will be reduced from slabstock foam producers and 2,300 tons annually (73%) from molded foam producers.

We believed that all rebond foam producers are already complying with the NESHAP requirements, so we don't estimate any additional reductions from this subcategory.

**Estimated National HAP Emission Reductions**



**Table 10.1**  
**1993 U.S. Slabstock Foam Plant List**

STATE	COMPANY	LOCATION
ARKANSAS	Foamex (formerly Crain Industries)	Fort Smith
	Hickory Springs Manufacturing Co.	Fort Smith
	Ludwig, Inc.	Waldo
CALIFORNIA	Foamex (formerly Crain Industries)	Compton
	Foamex (formerly Crain Industries)	San Leandro
	Carpenter Company	Lathrop
	Carpenter Company	Riverside
	Foamex, L.P.	Orange
	Foamex, L.P.	San Bernadino
	Future Foam, Inc.	Fullerton
	Hickory Springs Manufacturing Co.	Commerce
DELAWARE	E-A-R Division	Newark
FLORIDA	Flexible Foam Products	Miami
	Foamex, L.P.	Orlando
	Omnifoam, Inc.	Miami
GEORGIA	Austin Urethane, Inc.	Americus
	Foamex (formerly Crain Industries)	Newman
	Foamex, L.P.	Conyers
	Hickory Springs Manufacturing Co.	Americus
	Woodbridge Foam	Lithonia
ILLINOIS	Burkart Foam, Inc.	Cairo
	General Foam Corp.	Bridgeview
	No-Sag Foam Products	West Chicago
INDIANA	Foamex (formerly Crain Industries)	Elkhart
	E-A-R Specialty Composites	Indianapolis
	Carpenter Company	Elkhart
	Flexible Foam Products	Elkhart
	Foamex, L.P.	Auburn
	Foamex, L.P.	Elkhart
	Foamex, L.P.	Fort Wayne
	Foamex, L.P.	Laporte
IOWA	Future Foam, Inc.	Council Bluffs
KANSAS	Future Foam, Inc.	Newton
MARYLAND	William T. Burnett and Co.	Baltimore

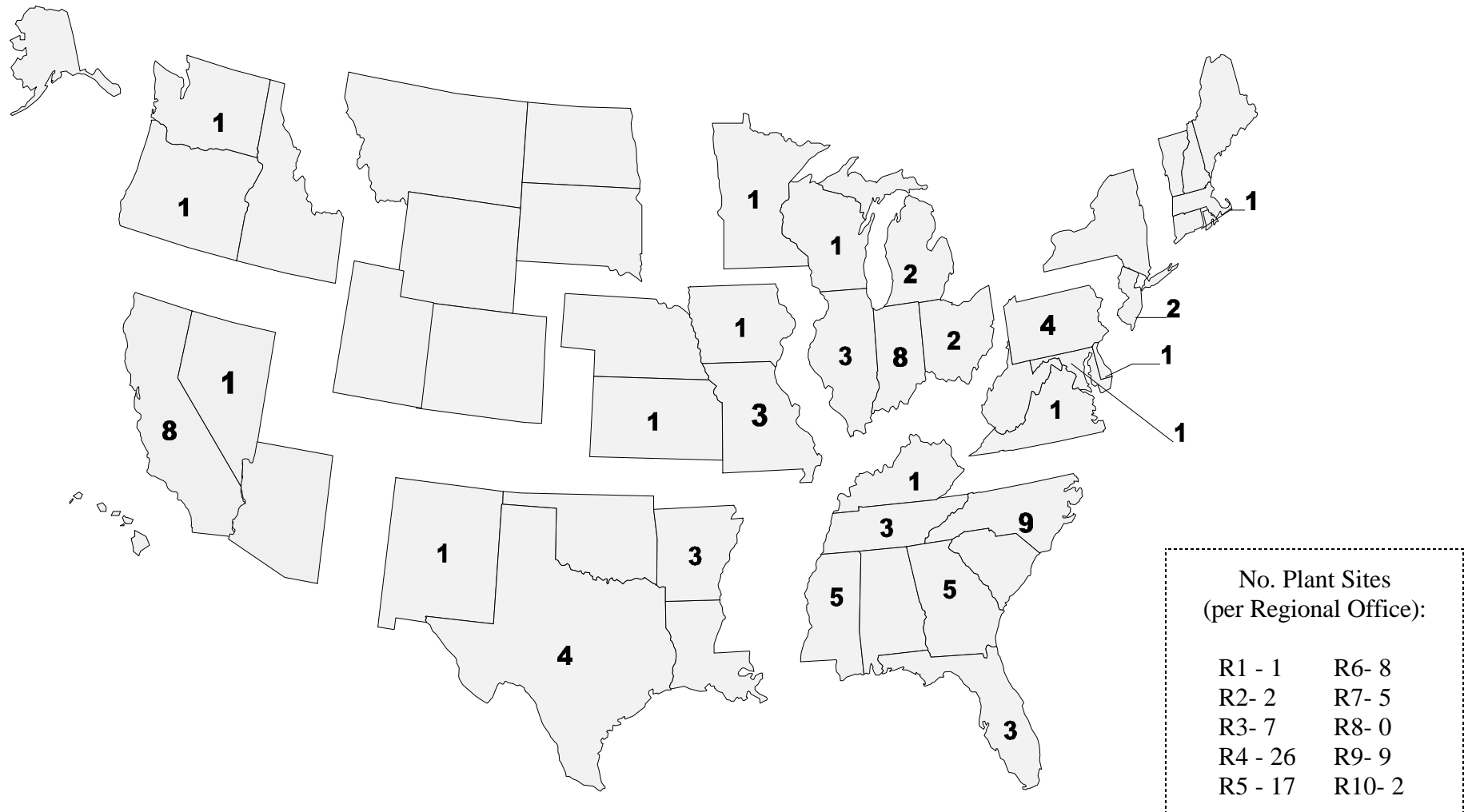
**Table 10.1**  
**Slabstock foam Plant List (cont'd)**

STATE	COMPANY	LOCATION
MASSACHUSETTS	Crest Foam Industries	Newburyport
MICHIGAN	Armaly Brands Plastomer Corp.	Walled Lake Livonia
MINNESOTA	General Foam of Minnesota	St. Paul
MISSISSIPPI	Hickory Springs Manufacturing Co. MPI, Inc. Vitafoam (formerly Olympic Products Co.) Superior Product Sales, Inc. Vitafoam, Inc.	Verona Coldwater Tupelo Plantersville Tupelo
MISSOURI	Foamex (formerly Crain Industries) Carpenter Company Foamex, L.P.	Verona Verona Verona
NEVADA	Universal Urethanes, Inc.	N. Las Vegas
NEW JERSEY	Crest Foam Industries General Foam Corp.	Moonachie East Rutherford
NORTH CAROLINA	Foamex (formerly Crain Industries) Carpenter Company Foamex, L.P. Hickory Springs Manufacturing Co. North Carolina Foam Industries, Inc. North Carolina Foam Industries Prestige Fabricators, Inc. Vitafoam, Inc. Vitafoam (formerly Olympic Products Co.)	Conover Conover Cornelius Conover Mount Airy Mount Airy Asheboro High Point Greensboro
OHIO	Flexible Foam Products Scottdel, Inc.	Spencerville Swanton
OREGON	Hickory Springs Manufacturing Co.	Portland
PENNSYLVANIA	Foamex (formerly Crain Industries) Foamex, L.P. Foamex, L.P. General Foam Corp.	Easton Corry Eddystone West Hazelton
TENNESSEE	Foamex, L.P.	Milan

**Table 10.1**  
**Slabstock foam Plant List (cont'd)**

STATE	COMPANY	LOCATION
	Foamex, L.P.	Morristown
	Nu-Foam Products, Inc.	Chattanooga
TEXAS	Carpenter Company	Temple
	Flexible Foam Products	Terrel
	Foamex, L.P.	Mesquite
	Texas Fibers Branch 1708	Brenham
VIRGINIA	Carpenter Company	Richmond
WASHINGTON	Foamex (formerly Crain Industries)	Kent
WISCONSIN	Future Foam, Inc.	Middleton

**Figure 10.1**  
Slabstock Flexible Polyurethane foam Plants (77 plants)



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**Insert copy of rule**

**(See separate PDF file)**

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16. ABSTRACT National emissions standards to control emissions of HAP from major sources producing flexible polyurethane foam were published in <i>Federal Register</i> 10/7/98, 63 FR 53996. This document contains information to help State and local agencies for air pollution control, as well as the regulated community, carry out these standards. The document summarizes the NESHAP requirements and provides example calculations, inspection checklists, and example notification and reporting forms. The document also provides information on where to submit reports, go to for additional help and applicability of foam sources to such things as General Provisions and Title V. A copy of the rule is provided in hard copy format. An electronic version of this document can be download at <a href="http://www.epa.gov/ttn/uatw/foram/foampg.html">www.epa.gov/ttn/uatw/foram/foampg.html</a> .			
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a. DESCRIPTORS		b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI
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